



#5

SEQUENCE LISTING

<10> Taupier Jr., Raymond J
Majmuder, Kamud
Spaderna, Steven K
Smithson, Glenda
Mezes, Peter S
Vernet, Corine A. M.

<120> Novel Polypeptides and Amino Acids Encoding Same

<130> 15966-729

<140> 09/813,432

<141> 2001-03-20

<150> 60/190,835

<151> 2000-03-20

<150> 60/190,768

<151> 2000-03-20

<150> 60/190,972

<151> 2000-03-22

<150> 60/191,199

<151> 2000-03-22

<150> 60/191,947

<151> 2000-03-24

<150> 60/192,665

<151> 2000-03-28

<150> 60/192,657

<151> 2000-03-28

<150> 60/192,984

<151> 2000-03-28

<150> 60/192,664

<151> 2000-03-28

<150> 60/192,836

<151> 2000-03-29

<150> 60/193,843

<151> 2000-03-31

<160> 78

<170> PatentIn Ver. 2.1

<210> 1

<211> 739

<212> DNA

<213> Homo sapiens

<400> 1

```
atggcattgt cgatgccact gaacaagttg aaggaggaag acaaagagcc cctccttgag 60
ctctgggtca aggctgtcag tgatggtgaa agcacaggaa tctgcctttt ttcccagaga 120
ttcctcatga ttctttggct caaaggagtt gtcttcagtgc tcacaactgt tgatctgaaa 180
aggaaaacctg cagatctgca aaacaaggct cctgggaacc acccaccact tataacttca 240
acagtgaagt caaataagat tgaggaagct cctgaagaag tcttatgtcc tccaagtac 300
ttaaagcttt caccaaaaca ccagaatca aatactgctg gaatggacat ctttgccaaa 360
ttctctgcat acatcaagaa ttcaaggcca gaggttaatg aagcattagt gaagcatctc 420
ttaaaaaccc tgcagaaaat ggaatatctg aattctcctc tccctgatga aattgatgaa 480
aatagcatgc aggacactaa gttttctaca cataaatttc tgaatggcaa taaaatggca 540
ttagctgatt gccatctgct gcccaaactg catattgtca aaaaaaaga aaaatataga 600
aaatataaaa atatagaaaa aaaaggaatg actggcatct ggagatacct aacgaataca 660
agtagtaggg atatgttcaa caatacctgt cccaatgata aagagattga aatagcagca 720
gaaacagtta atgtagtaa                                     739
```

<210> 2

<211> 246

<212> PRT

<213> Homo sapiens

<400> 2

```
Met Ala Leu Ser Met Pro Leu Asn Lys Leu Lys Glu Glu Asp Lys Glu
 1                5                10                15

Pro Leu Leu Glu Leu Trp Val Lys Ala Val Ser Asp Gly Glu Ser Thr
      20                25                30

Gly Ile Cys Leu Phe Ser Gln Arg Phe Leu Met Ile Leu Trp Leu Lys
      35                40                45

Gly Val Val Phe Ser Val Thr Thr Val Asp Leu Lys Arg Lys Pro Ala
      50                55                60

Asp Leu Gln Asn Lys Ala Pro Gly Asn His Pro Pro Leu Ile Thr Ser
      65                70                75                80

Thr Val Lys Ser Asn Lys Ile Glu Glu Ala Pro Glu Glu Val Leu Cys
```

85	90	95
Pro Pro Lys Tyr Leu Lys Leu Ser	Pro Lys His Pro Glu Ser Asn Thr	
100	105	110
Ala Gly Met Asp Ile Phe Ala Lys Phe Ser Ala Tyr Ile Lys Asn Ser		
115	120	125
Arg Pro Glu Val Asn Glu Ala Leu Val Lys His Leu Leu Lys Thr Leu		
130	135	140
Gln Lys Met Glu Tyr Leu Asn Ser Pro Leu Pro Asp Glu Ile Asp Glu		
145	150	155 160
Asn Ser Met Gln Asp Thr Lys Phe Ser Thr His Lys Phe Leu Asn Gly		
165	170	175
Asn Lys Met Ala Leu Ala Asp Cys His Leu Leu Pro Lys Leu His Ile		
180	185	190
Val Lys Lys Lys Glu Lys Tyr Arg Lys Tyr Lys Asn Ile Glu Lys Lys		
195	200	205
Gly Met Thr Gly Ile Trp Arg Tyr Leu Thr Asn Thr Ser Ser Arg Asp		
210	215	220
Met Phe Asn Asn Thr Cys Pro Asn Asp Lys Glu Ile Glu Ile Ala Ala		
225	230	235 240
Glu Thr Val Asn Val Val		
245		

<210> 3
 <211> 550
 <212> DNA
 <213> Homo sapiens

<400> 3
 tctgaggaca cagccacact cttgtcatgc cattgccctt ctattctttc cttataacat 60
 catgtaagag ggcacagcat gtttcccatg ctggaccctg ctctgctcac tccacacacc 120
 ttctgacacc caccatggac actgttcagc aactggaaga aagagggcac ctgatggaca 180
 gcaaaggctt tgatgaaaat aaatacatga aggaactagg agtgggacta gccctctgcg 240
 aaaaaaaggg tgctatggcc aaaaaagatt gtattagctt ttttgatggc aaaaacctca 300
 ccataaaaaat ggagagtact ttaaaatcat acagttttct cacactcagg ggagggaaat 360
 tcaaagaaac tacaggtgac ggcagaaaaa ctcagacttg cacctttaca tatggcacat 420
 tggttcgaca tcagaagtgg aatggaaagg aaggcaaaat aagaaaattg aaagacagga 480
 aattagtggg ggactgcac ataaacaatg tcacctgtac tcagatctat gaaaaagtag 540

aataaaaact

550

<210> 4

<211> 172

<212> PRT

<213> Homo sapiens

<400> 4

Met Pro Leu Pro Phe Tyr Ser Phe Leu Ile Thr Ser Cys Lys Arg Ala
1 5 10 15

Gln His Val Ser His Ala Gly Pro Cys Ser Ala His Ser Thr His Leu
20 25 30

Leu Thr Pro Thr Met Asp Thr Val Gln Gln Leu Glu Glu Arg Gly His
35 40 45

Leu Met Asp Ser Lys Gly Phe Asp Glu Asn Lys Tyr Met Lys Glu Leu
50 55 60

Gly Val Gly Leu Ala Leu Cys Glu Lys Lys Gly Ala Met Ala Lys Lys
65 70 75 80

Asp Cys Ile Ser Phe Phe Asp Gly Lys Asn Leu Thr Ile Lys Met Glu
85 90 95

Ser Thr Leu Lys Ser Tyr Ser Phe Leu Thr Leu Arg Gly Gly Lys Phe
100 105 110

Lys Glu Thr Thr Gly Asp Gly Arg Lys Thr Gln Thr Cys Thr Phe Thr
115 120 125

Tyr Gly Thr Leu Val Arg His Gln Lys Trp Asn Gly Lys Glu Gly Lys
130 135 140

Ile Arg Lys Leu Lys Asp Arg Lys Leu Val Val Asp Cys Ile Ile Asn
145 150 155 160

Asn Val Thr Cys Thr Gln Ile Tyr Glu Lys Val Glu
165 170

<210> 5

<211> 915

<212> DNA

<213> Homo sapiens

<400> 5

```
atgctgccgc cgccgcggcc cgcagctgcc ttggcgctgc ctgtgctcct gctactgctg 60
gtggtgctga cgccgcccc gaccggcgca aggccatccc caggcccaga ttacctgcgg 120
cgcggtgga tgcggctgct agcggagggc gagggtgcgc ctccctgccg gccagaagag 180
tgcgccgcgc cgcggggctg cctggcgggc aggggtgcgc acgcgtgcgc ctgctgctgg 240
gaatgcgcca acctcgaggg ccagctctgc gacctggacc ccagtgtca cttctacggg 300
cactgcggcg agcagcttga gtgccggctg gacacaggcg gcgacctgag ccgcggagag 360
gtgccggaac ctctgtgtgc ctgtcgttcg cagagtccgc tctgcgggtc cgacggtcac 420
acctactccc agatctgccg cctgcaggag gcggcccgcg ctcgggccga tgccaacctc 480
actgtggcac acccggggccc ctgcgaatcg gggccccaga tcgtgtcaca tccatatgac 540
acttggaatg tgacagggca ggatgtgatc tttggctgtg aagtgtttgc ctaccccatg 600
gcctccatcg agtggaggaa ggatggcttg gacatccagc tgccagggga tgacccccac 660
atctctgtgc agtttagggg tggaccccag aggtttgagg tgactggctg gctgcagatc 720
caggctgtgc gtcccagtga tgagggcact taccgtgcc ttggccgcaa tgccctgggt 780
caagtggagg cccctgctag cttgacagtg ctcacacctg accagctgaa ctctacaggc 840
atcccccagc tgcgatcact aaacctggtt cctgaggagg aggctgagag tgaagagaat 900
gacgattact actag 915
```

<210> 6

<211> 304

<212> PRT

<213> Homo sapiens

<400> 6

```
Met Leu Pro Pro Pro Arg Pro Ala Ala Ala Leu Ala Leu Pro Val Leu
  1              5              10              15

Leu Leu Leu Leu Val Val Leu Thr Pro Pro Pro Thr Gly Ala Arg Pro
      20              25              30

Ser Pro Gly Pro Asp Tyr Leu Arg Arg Gly Trp Met Arg Leu Leu Ala
      35              40              45

Glu Gly Glu Gly Cys Ala Pro Cys Arg Pro Glu Glu Cys Ala Ala Pro
      50              55              60

Arg Gly Cys Leu Ala Gly Arg Val Arg Asp Ala Cys Gly Cys Cys Trp
      65              70              75              80

Glu Cys Ala Asn Leu Glu Gly Gln Leu Cys Asp Leu Asp Pro Ser Ala
      85              90              95

His Phe Tyr Gly His Cys Gly Glu Gln Leu Glu Cys Arg Leu Asp Thr
      100             105             110

Gly Gly Asp Leu Ser Arg Gly Glu Val Pro Glu Pro Leu Cys Ala Cys
      115             120             125
```

Arg	Ser	Gln	Ser	Pro	Leu	Cys	Gly	Ser	Asp	Gly	His	Thr	Tyr	Ser	Gln	130	135	140	
Ile	Cys	Arg	Leu	Gln	Glu	Ala	Ala	Arg	Ala	Arg	Pro	Asp	Ala	Asn	Leu	145	150	155	160
Thr	Val	Ala	His	Pro	Gly	Pro	Cys	Glu	Ser	Gly	Pro	Gln	Ile	Val	Ser	165	170	175	
His	Pro	Tyr	Asp	Thr	Trp	Asn	Val	Thr	Gly	Gln	Asp	Val	Ile	Phe	Gly	180	185	190	
Cys	Glu	Val	Phe	Ala	Tyr	Pro	Met	Ala	Ser	Ile	Glu	Trp	Arg	Lys	Asp	195	200	205	
Gly	Leu	Asp	Ile	Gln	Leu	Pro	Gly	Asp	Asp	Pro	His	Ile	Ser	Val	Gln	210	215	220	
Phe	Arg	Gly	Gly	Pro	Gln	Arg	Phe	Glu	Val	Thr	Gly	Trp	Leu	Gln	Ile	225	230	235	240
Gln	Ala	Val	Arg	Pro	Ser	Asp	Glu	Gly	Thr	Tyr	Arg	Cys	Leu	Gly	Arg	245	250	255	
Asn	Ala	Leu	Gly	Gln	Val	Glu	Ala	Pro	Ala	Ser	Leu	Thr	Val	Leu	Thr	260	265	270	
Pro	Asp	Gln	Leu	Asn	Ser	Thr	Gly	Ile	Pro	Gln	Leu	Arg	Ser	Leu	Asn	275	280	285	
Leu	Val	Pro	Glu	Glu	Glu	Ala	Glu	Ser	Glu	Glu	Asn	Asp	Asp	Tyr	Tyr	290	295	300	

<210> 7

<211> 1299

<212> DNA

<213> Homo sapiens

<400> 7

```

cagcatgagc ttcaccactc cctccacctt ctccaccaac taccagtccc tgggctctgt 60
ccagccgccc agctatggca cctggccggt cagcagcgca gccagcatct atgcaggcac 120
tgggggggctt ggggtcccaga tctccatgtc ctgttctacc agtttctggg gcggcttggg 180
gtctgggggc ctggccacag agatggctgg gggctctggca gaaatggggg gcatccagaa 240

```

```

tgagaaggag accatgcaaa gcctgaacga ccacctggac tacctggaca gagtgaggaa 300
cctggagacc gagaactgga ggctggagag caaaatccag gagtatctgg agaagagacc 360
ccatgtcaga gactggggcc attacttcaa gaccatcaag gaactgaggg ctcatatctt 420
cgcaaatact gtggacaatg tccacatcat tctgcagatc gacaatgccc gtcttgctgc 480
tgatgacttc agagtcaagt atgagacaga gctggccatg cgccagtctg tggagagcaa 540
catccatggg ctctgcaagg tcattgatga caccaatgtc actctgctgc agctggagac 600
agagatgggc gctctcaagg aggagctgct cctcatgaag aagaaccatg aagaggaagt 660
aaaaggcttg caagtccaga ttgccaaactc tgggttgcc gtggaggtag atgcccccaa 720
atctcaagtc ctgcgaagg tcatggcaga catcagggcc caatatgatg agctgtctca 780
gaagaactca gagaagctag gcaagtactg gtctcagcag actgaggaga gcaccacagt 840
ggtcaccaca cactctgcca aggtcagagc tgctgagatg acaacggagc tgagacgtac 900
agtccagtgc ttggagattg acctggactc aatgagaaat ctgaagacca gcttgaggaa 960
cagcctgagg gaggtggagg cccgctacgc cctgcagatg gagcagctca acagaatcct 1020
gctgtacttg gagtcaaagc tggcacagaa ctgggcagag ggccagcgca aggtccagga 1080
gtacaaggac ttgctgaaca tcaggggtcaa gctggaggct gagatcgcca cctaccgccg 1140
cctgctggaa gacagcgagg gcctcaatct tgggtgatgcc ctggacagca gcaactccat 1200
gcaaaccatc caaaagacca ccaccgccca gatagtggat agcaaagtgg tgtctgagat 1260
cagtgcaccc aaagttctga gacattaagc cagcagaag 1299

```

<210> 8
 <211> 427
 <212> PRT
 <213> Homo sapiens

```

<400> 8
Met Ser Phe Thr Thr Pro Ser Thr Phe Ser Thr Asn Tyr Gln Ser Leu
  1              5              10              15

Gly Ser Val Gln Pro Pro Ser Tyr Gly Thr Trp Pro Val Ser Ser Ala
      20              25              30

Ala Ser Ile Tyr Ala Gly Thr Gly Gly Leu Gly Ser Gln Ile Ser Met
      35              40              45

Ser Cys Ser Thr Ser Phe Trp Gly Gly Leu Gly Ser Gly Gly Leu Ala
      50              55              60

Thr Glu Met Ala Gly Gly Leu Ala Glu Met Gly Gly Ile Gln Asn Glu
      65              70              75              80

Lys Glu Thr Met Gln Ser Leu Asn Asp His Leu Asp Tyr Leu Asp Arg
      85              90              95

Val Arg Asn Leu Glu Thr Glu Asn Trp Arg Leu Glu Ser Lys Ile Gln
      100             105             110

Glu Tyr Leu Glu Lys Arg Pro His Val Arg Asp Trp Gly His Tyr Phe

```

115	120	125
Lys Thr Ile Lys Glu Leu Arg Ala Gln Ile Phe Ala Asn Thr Val Asp		
130	135	140
Asn Val His Ile Ile Leu Gln Ile Asp Asn Ala Arg Leu Ala Ala Asp		
145	150	155
160		
Asp Phe Arg Val Lys Tyr Glu Thr Glu Leu Ala Met Arg Gln Ser Val		
165	170	175
Glu Ser Asn Ile His Gly Leu Cys Lys Val Ile Asp Asp Thr Asn Val		
180	185	190
Thr Leu Leu Gln Leu Glu Thr Glu Met Gly Ala Leu Lys Glu Glu Leu		
195	200	205
Leu Leu Met Lys Lys Asn His Glu Glu Glu Val Lys Gly Leu Gln Val		
210	215	220
Gln Ile Ala Asn Ser Gly Leu Ala Val Glu Val Asp Ala Pro Lys Ser		
225	230	235
240		
Gln Val Leu Ala Lys Val Met Ala Asp Ile Arg Ala Gln Tyr Asp Glu		
245	250	255
Leu Ser Gln Lys Asn Ser Glu Lys Leu Gly Lys Tyr Trp Ser Gln Gln		
260	265	270
Thr Glu Glu Ser Thr Thr Val Val Thr Thr His Ser Ala Lys Val Arg		
275	280	285
Ala Ala Glu Met Thr Thr Glu Leu Arg Arg Thr Val Gln Cys Leu Glu		
290	295	300
Ile Asp Leu Asp Ser Met Arg Asn Leu Lys Thr Ser Leu Glu Asn Ser		
305	310	315
320		
Leu Arg Glu Val Glu Ala Arg Tyr Ala Leu Gln Met Glu Gln Leu Asn		
325	330	335
Arg Ile Leu Leu Tyr Leu Glu Ser Lys Leu Ala Gln Asn Trp Ala Glu		
340	345	350
Gly Gln Arg Lys Val Gln Glu Tyr Lys Asp Leu Leu Asn Ile Arg Val		
355	360	365
Lys Leu Glu Ala Glu Ile Ala Thr Tyr Arg Arg Leu Leu Glu Asp Ser		

370		375		380	
Glu Gly Leu Asn Leu Gly Asp Ala Leu Asp Ser Ser Asn Ser Met Gln					
385		390		395	400
Thr Ile Gln Lys Thr Thr Thr Arg Gln Ile Val Asp Ser Lys Val Val					
	405		410		415
Ser Glu Ile Ser Asp Thr Lys Val Leu Arg His					
	420		425		

<210> 9
 <211> 2202
 <212> DNA
 <213> Homo sapiens

<400> 9

```

atgtgggggc tctgtctcgc cctggccggc ttgcgcgcgg ccgtcggccc ggctctgggg 60
gcgcccagga actcgggtgct gggcctcgcg cagcccggga ccaccaaggt cccaggctcg 120
accccgcccc tgcatagcag ccggcacag ccgtcggcgg agacagctaa cacctcagaa 180
cagcatgtcc ggattcgagt catcaagaag aaaaagggtca ttatgaagaa gcggaagaag 240
ctaactctaa ctgcgccccac ccactgggtg actgccgggc cccttgtgac cccactcca 300
gcagggaccc tcgaccccgc tgagaaacaa gaaccaggct gtcctccttt gggctctggag 360
tccttgcgag ttccagatag ccggcttgag gcatccagca gccagtcctt tggctcttga 420
ccacaccgag gacggctcaa cattcagtca ggctggagg acggcgatct atatgatgga 480
gcctggtgtg ctgaggagca ggacgccgat ccatggtttc aggtggacgc tgggcacccc 540
acccgcttct cgggtgttat cacacagggc aggaactctg tctggaggta tgactgggtc 600
acatcataca aggtccagtt cagcaatgac agtcggacct ggtggggaag taggaaccac 660
agcagtggga tggacgcagt gtttcctgcc aattcagacc cagaaactcc agtgctgaac 720
ctcctgccgg agccccaggt ggcccgttc attcgctgc tgcgccagac ctggctccag 780
ggaggcgcgc cttgcctccg ggcagagatc ctggcctgcc cagtctcaga cccaatgac 840
ctattccttg agggccctgc gtcgggatcc tctgaccctc tagactttca gcatcacaat 900
tacaaggcca tgaggaagct gatgaagcag gtacaagagc aatgccccaa cattaccgc 960
atctacagca ttgggaagag ctaccagggc ctgaagctgt atgtgatgga aatgtcggac 1020
aagcctgggg agcatgagct gggtagcct gaggtgcgct acgtggctgg catgcatggg 1080
aacgaggccc tggggcgga gttgcttctg ctcctgatgc agttcctgtg ccatgagttc 1140
ctgcgaggga acccagggg gaccggctg ctctctgaga tgcgcattca cctgctgcc 1200
tccatgaacc ctgatggcta tgagatcgcc taccaccggg gttcagagct ggtgggctgg 1260
gccgagggcc gctggaacaa ccagagcatc gatcttaacc ataattttgc tgacctcaac 1320
acaccactgt gggaagcaca ggacgatggg aagggtcccc acatcgtccc caaccatcac 1380
ctgccattgc ccacttacta caccctgccc aatgccaccg tggctcctga aacgcgggca 1440
gtaatcaagt ggatgaagcg gatccccttt gtgctaagt ccaacctcca cgggggtgag 1500
ctcgtggtgt cctaccatt cgacatgact cgcaccccg gggctgccc cgagctcacg 1560
cccacaccag atgatgctgt gtttcgctgg ctcagcactg tctatgctgg cagtaatctg 1620
gccatgcagg acaccagccg ccgacctgc cacagccagg acttctccgt gcacggcaac 1680
atcatcaacg gggctgactg gcacacggtc cccgggagta tgaatgactt cagctaccta 1740
cacaccaact gctttgaggt cactgtggag ctgtcctgtg acaagttccc tcacgagaat 1800

```

gaattgcccc aggagtggga gaacaacaaa gacgccctcc tcacctacct ggagcaggtg 1860
 cgcattgggca ttgcaggagt ggtgaggagc aaggacacgg agcttgggat tgctgacgct 1920
 gtcattgccg tggatgggat taaccatgac gtgaccacgg cgtggggcgg ggattattgg 1980
 cgtctgctga cccagggga ctacatggtg actgccagt ccgagggcta ccattcagtg 2040
 acacggaact gtcgggtcac tttgaagagg ggccccttcc cctgcaattt cgtgctcacc 2100
 aagactccca aacagaggct gcgcgagctg ctggcagctg gggccaaggt gcccccgac 2160
 cttcgagggc gcctggagcg gctaagggga cagaaggatt ga 2202

<210> 10
 <211> 733
 <212> PRT
 <213> Homo sapiens

<400> 10
 Met Trp Gly Leu Leu Leu Ala Leu Ala Gly Phe Ala Pro Ala Val Gly
 1 5 10 15
 Pro Ala Leu Gly Ala Pro Arg Asn Ser Val Leu Gly Leu Ala Gln Pro
 20 25 30
 Gly Thr Thr Lys Val Pro Gly Ser Thr Pro Ala Leu His Ser Ser Pro
 35 40 45
 Ala Gln Pro Ser Ala Glu Thr Ala Asn Thr Ser Glu Gln His Val Arg
 50 55 60
 Ile Arg Val Ile Lys Lys Lys Lys Val Ile Met Lys Lys Arg Lys Lys
 65 70 75 80
 Leu Thr Leu Thr Arg Pro Thr Pro Leu Val Thr Ala Gly Pro Leu Val
 85 90 95
 Thr Pro Thr Pro Ala Gly Thr Leu Asp Pro Ala Glu Lys Gln Glu Pro
 100 105 110
 Gly Cys Pro Pro Leu Gly Leu Glu Ser Leu Arg Val Ser Asp Ser Arg
 115 120 125
 Leu Glu Ala Ser Ser Ser Gln Ser Phe Gly Leu Gly Pro His Arg Gly
 130 135 140
 Arg Leu Asn Ile Gln Ser Gly Leu Glu Asp Gly Asp Leu Tyr Asp Gly
 145 150 155 160
 Ala Trp Cys Ala Glu Glu Gln Asp Ala Asp Pro Trp Phe Gln Val Asp
 165 170 175

Ala Gly His Pro Thr Arg Phe Ser Gly Val Ile Thr Gln Gly Arg Asn
 180 185 190

Ser Val Trp Arg Tyr Asp Trp Val Thr Ser Tyr Lys Val Gln Phe Ser
 195 200 205

Asn Asp Ser Arg Thr Trp Trp Gly Ser Arg Asn His Ser Ser Gly Met
 210 215 220

Asp Ala Val Phe Pro Ala Asn Ser Asp Pro Glu Thr Pro Val Leu Asn
 225 230 235 240

Leu Leu Pro Glu Pro Gln Val Ala Arg Phe Ile Arg Leu Leu Pro Gln
 245 250 255

Thr Trp Leu Gln Gly Gly Ala Pro Cys Leu Arg Ala Glu Ile Leu Ala
 260 265 270

Cys Pro Val Ser Asp Pro Asn Asp Leu Phe Leu Glu Ala Pro Ala Ser
 275 280 285

Gly Ser Ser Asp Pro Leu Asp Phe Gln His His Asn Tyr Lys Ala Met
 290 295 300

Arg Lys Leu Met Lys Gln Val Gln Glu Gln Cys Pro Asn Ile Thr Arg
 305 310 315 320

Ile Tyr Ser Ile Gly Lys Ser Tyr Gln Gly Leu Lys Leu Tyr Val Met
 325 330 335

Glu Met Ser Asp Lys Pro Gly Glu His Glu Leu Gly Glu Pro Glu Val
 340 345 350

Arg Tyr Val Ala Gly Met His Gly Asn Glu Ala Leu Gly Arg Glu Leu
 355 360 365

Leu Leu Leu Leu Met Gln Phe Leu Cys His Glu Phe Leu Arg Gly Asn
 370 375 380

Pro Arg Val Thr Arg Leu Leu Ser Glu Met Arg Ile His Leu Leu Pro
 385 390 395 400

Ser Met Asn Pro Asp Gly Tyr Glu Ile Ala Tyr His Arg Gly Ser Glu
 405 410 415

Leu Val Gly Trp Ala Glu Gly Arg Trp Asn Asn Gln Ser Ile Asp Leu
 420 425 430

Asn His Asn Phe Ala Asp Leu Asn Thr Pro Leu Trp Glu Ala Gln Asp
 435 440 445

Asp Gly Lys Val Pro His Ile Val Pro Asn His His Leu Pro Leu Pro
 450 455 460

Thr Tyr Tyr Thr Leu Pro Asn Ala Thr Val Ala Pro Glu Thr Arg Ala
 465 470 475 480

Val Ile Lys Trp Met Lys Arg Ile Pro Phe Val Leu Ser Ala Asn Leu
 485 490 495

His Gly Gly Glu Leu Val Val Ser Tyr Pro Phe Asp Met Thr Arg Thr
 500 505 510

Pro Trp Ala Ala Arg Glu Leu Thr Pro Thr Pro Asp Asp Ala Val Phe
 515 520 525

Arg Trp Leu Ser Thr Val Tyr Ala Gly Ser Asn Leu Ala Met Gln Asp
 530 535 540

Thr Ser Arg Arg Pro Cys His Ser Gln Asp Phe Ser Val His Gly Asn
 545 550 555 560

Ile Ile Asn Gly Ala Asp Trp His Thr Val Pro Gly Ser Met Asn Asp
 565 570 575

Phe Ser Tyr Leu His Thr Asn Cys Phe Glu Val Thr Val Glu Leu Ser
 580 585 590

Cys Asp Lys Phe Pro His Glu Asn Glu Leu Pro Gln Glu Trp Glu Asn
 595 600 605

Asn Lys Asp Ala Leu Leu Thr Tyr Leu Glu Gln Val Arg Met Gly Ile
 610 615 620

Ala Gly Val Val Arg Asp Lys Asp Thr Glu Leu Gly Ile Ala Asp Ala
 625 630 635 640

Val Ile Ala Val Asp Gly Ile Asn His Asp Val Thr Thr Ala Trp Gly
 645 650 655

Gly Asp Tyr Trp Arg Leu Leu Thr Pro Gly Asp Tyr Met Val Thr Ala
 660 665 670

Ser Ala Glu Gly Tyr His Ser Val Thr Arg Asn Cys Arg Val Thr Leu
 675 680 685

Lys Arg Gly Pro Phe Pro Cys Asn Phe Val Leu Thr Lys Thr Pro Lys
690 695 700

Gln Arg Leu Arg Glu Leu Leu Ala Ala Gly Ala Lys Val Pro Pro Asp
705 710 715 720

Leu Arg Arg Arg Leu Glu Arg Leu Arg Gly Gln Lys Asp
725 730

<210> 11
<211> 846
<212> DNA
<213> Homo sapiens

<400> 11
cgcagatgct gtggctgcta ttcctgaccc tcccctgcct ggggggctcc atgtccaaga 60
ccccagtgcc cgtcccagag aatgacctgg tgggcattgt ggggggccac aatgcccccc 120
cggggaagtg gccgtggcag gtcagcctga gggcttacag ctaccactgg gcctcctggg 180
cgcacatctg tgggggctcc ctcattccacc cccagtgggt gctgactgct gccactgca 240
ttttctggaa ggacaccgac ccgtccatct accggatcca cgctggggac gtgtatctct 300
acggggggccg ggggctgctg aacgtcagcc ggatcatcgt ccaccccaac tatgtcactg 360
cggggctggg tgcggatgtg gccctgctcc agctgggtgag ccccatgacg ggagccgcta 420
atgtcaggac ggtcaagctc tccccgggtc cgctggagct caccgccgaag gaccagtgtc 480
gggtgactgg ctggggagcg atcaggatgt tcgagtcgct gccgccgccc taccgcctgc 540
agcaggcgag tgtgcaggtg ctggagaacg ccgtctgtga gcagccctac cgcaacgcct 600
cagggcacac tggcgaccgg cagctcatcc tggatgacat gctgtgtgcc ggcagcgagg 660
gccgagactc ctgtcagggt gactccggcg gccctctggt ctgcaggctg cgggggtcct 720
ggcgcttgtt gggggtggtc agctggggct acggctgtac cctgcgggac tttcccgccg 780
tctacacca cgtccagatc tacgtgctct ggatcctgca gcaagtcggg gagttgccct 840
gagcag 846

<210> 12
<211> 278
<212> PRT
<213> Homo sapiens

<400> 12
Met Leu Trp Leu Leu Phe Leu Thr Leu Pro Cys Leu Gly Gly Ser Met
1 5 10 15

Ser Lys Thr Pro Val Pro Val Pro Glu Asn Asp Leu Val Gly Ile Val
20 25 30

Gly Gly His Asn Ala Pro Pro Gly Lys Trp Pro Trp Gln Val Ser Leu
35 40 45

Arg Val Tyr Ser Tyr His Trp Ala Ser Trp Ala His Ile Cys Gly Gly
 50 55 60
 Ser Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala His Cys Ile Phe
 65 70 75 80
 Trp Lys Asp Thr Asp Pro Ser Ile Tyr Arg Ile His Ala Gly Asp Val
 85 90 95
 Tyr Leu Tyr Gly Gly Arg Gly Leu Leu Asn Val Ser Arg Ile Ile Val
 100 105 110
 His Pro Asn Tyr Val Thr Ala Gly Leu Gly Ala Asp Val Ala Leu Leu
 115 120 125
 Gln Leu Val Ser Pro Met Ile Gly Ala Ala Asn Val Arg Thr Val Lys
 130 135 140
 Leu Ser Pro Val Ser Leu Glu Leu Thr Pro Lys Asp Gln Cys Trp Val
 145 150 155 160
 Thr Gly Trp Gly Ala Ile Arg Met Phe Glu Ser Leu Pro Pro Pro Tyr
 165 170 175
 Arg Leu Gln Gln Ala Ser Val Gln Val Leu Glu Asn Ala Val Cys Glu
 180 185 190
 Gln Pro Tyr Arg Asn Ala Ser Gly His Thr Gly Asp Arg Gln Leu Ile
 195 200 205
 Leu Asp Asp Met Leu Cys Ala Gly Ser Glu Gly Arg Asp Ser Cys Gln
 210 215 220
 Gly Asp Ser Gly Gly Pro Leu Val Cys Arg Leu Arg Gly Ser Trp Arg
 225 230 235 240
 Leu Val Gly Val Val Ser Trp Gly Tyr Gly Cys Thr Leu Arg Asp Phe
 245 250 255
 Pro Gly Val Tyr Thr His Val Gln Ile Tyr Val Leu Trp Ile Leu Gln
 260 265 270
 Gln Val Gly Glu Leu Pro
 275

<210> 13
 <211> 2145

<212> DNA
<213> Homo sapiens

<400> 13

```
gatccggggg ctccctgtgac catgccctct tctcgcccgc aggtcggcca cgggacctga 60
cgcaacagga tggacgagtc ccctgagcct ctgcagcagg gcagagggcc ggtgccggtc 120
cgacgccagc gcccagcacc ccgggggtctg cgtgagatgc tgaaggccag gctgtggtgc 180
agctgctcgt gcagtgtgct gtgcgtccgg gcgctggtgc aggacctgct ccccgccacg 240
cgctggctgc gtcagtaccg ccgcggggag tacctggcag gcgacgtcat gtctgggctg 300
gtcatcgga tcatcctggt ccgcaggcc atcgctact cattgctggc cgggctgcag 360
cccatctaca gcctctatac gtccttcttc gccaacctca tctacttcct catgggcacc 420
tcacggcatg tctccgtggg catcttcagc ctgctttgcc tcatggtggg gcaggtggtg 480
gaccgggagc tccagctggc cggctttgac ccctcccagg acggcctgca gcccggagcc 540
aacagcagca ccctcaacgg ctcggtgcc atgctggact gcgggcgtga ctgctacgcc 600
atccgtgtcg ccaccgccct cacgctgatg accgggcttt accaggtcct catgggcgtc 660
ctccggctgg gcttcgtgtc cgcctacctc tcacagccac tgctcgatgg ctttgccatg 720
ggggcctccg tgaccatcct gacctcgcag ctcaaacc tgctgggcgt gcggatcccg 780
cggcaccagg ggcccggcat ggtggtcctc acatggctga gcctgctgcg cggcgccggg 840
caggccaacg tgtgcgacgt ggtcaccagc acggtgtgcc tggcgggtgct gctagccgcg 900
aaggagctct cagaccgcta ccgacaccgc ctgagggtgc cgctgccac ggagctgctg 960
gtcatcgtgg tggccacact cgtgtcgac ttcgggcagc tccacaagcg ctttggtctg 1020
agcgtggctg gcgacatccc cacgggtttc atgccccctc aggtcccaga gcccaggtg 1080
atgcagcgtg tggctttgga tgccgtggcc ctggccctcg tggctgccgc cttctccatc 1140
tcgctggcgg agatgttcgc ccgcagtcac ggctactctg tgcgtgccaa ccaggagctg 1200
ctggctgtgc atcgtggtca cctgcggggg gcctgccaa gtgtgggact cccgggctgt 1260
ggcggtacac cggctgacgc gctggtctgg gcaggcacgg gcacctgtat gctggtcagc 1320
acagaggccg ggctgctggc tggcgtcatc ctctcgctgc tcagcctggc cggccgcacc 1380
caaaagccac gcaccgccct gctggcccgc atcggggaca cggccttcta cgaggatgcc 1440
acagagttcg agggcctcgt ccctgagccc ggcgtgcggg tgttcgctt tggggggccg 1500
ctgtactatg ccaacaagga cttcttcctg cagtactct acagcctcac ggggctggac 1560
gcagggtgca tggctgccag gaggaaggag gggggctcag agacgggggt cggtgaggga 1620
ggccctgccc agggcgagga cctgggcccg gtagcacca gggctgcgct ggtgcccgca 1680
gcggccggct tccacacagt ggtcatcgac tgcgccccgc tgctgttcct agacgcagcc 1740
ggtgtgagca cgctgcagga cctgcgccga gactacgggg ccctgggcat cagcctgctg 1800
ctagcctgct gcagcccgc tgtgagagac attctgagca gaggaggctt cctcggggag 1860
ggccccgggg acacggctga ggaggagcag ctgttcctca gtgtgcacga tgccgtgcag 1920
acagcacgag cccgccacag ggagctggag gccaccgatg cccatctgta gcagggccag 1980
gcctgcccag cagcctctgc tccctcctgg ggaccacag cagacgtctg caagccactg 2040
ctgagaccct tcccaggag gagccacca agagctgcac tcttggtgcca cagctgcctt 2100
ggggaaaccg gggaaccca actgggaaag gaggccctct gatca 2145
```

<210> 14
<211> 633
<212> PRT
<213> Homo sapiens

<400> 14

Met Asp Glu Ser Pro Glu Pro Leu Gln Gln Gly Arg Gly Pro Val Pro
1 5 10 15
Val Arg Arg Gln Arg Pro Ala Pro Arg Gly Leu Arg Glu Met Leu Lys
20 25 30
Ala Arg Leu Trp Cys Ser Cys Ser Cys Ser Val Leu Cys Val Arg Ala
35 40 45
Leu Val Gln Asp Leu Leu Pro Ala Thr Arg Trp Leu Arg Gln Tyr Arg
50 55 60
Pro Arg Glu Tyr Leu Ala Gly Asp Val Met Ser Gly Leu Val Ile Gly
65 70 75 80
Ile Ile Leu Val Pro Gln Ala Ile Ala Tyr Ser Leu Leu Ala Gly Leu
85 90 95
Gln Pro Ile Tyr Ser Leu Tyr Thr Ser Phe Phe Ala Asn Leu Ile Tyr
100 105 110
Phe Leu Met Gly Thr Ser Arg His Val Ser Val Gly Ile Phe Ser Leu
115 120 125
Leu Cys Leu Met Val Gly Gln Val Val Asp Arg Glu Leu Gln Leu Ala
130 135 140
Gly Phe Asp Pro Ser Gln Asp Gly Leu Gln Pro Gly Ala Asn Ser Ser
145 150 155 160
Thr Leu Asn Gly Ser Ala Ala Met Leu Asp Cys Gly Arg Asp Cys Tyr
165 170 175
Ala Ile Arg Val Ala Thr Ala Leu Thr Leu Met Thr Gly Leu Tyr Gln
180 185 190
Val Leu Met Gly Val Leu Arg Leu Gly Phe Val Ser Ala Tyr Leu Ser
195 200 205
Gln Pro Leu Leu Asp Gly Phe Ala Met Gly Ala Ser Val Thr Ile Leu
210 215 220
Thr Ser Gln Leu Lys His Leu Leu Gly Val Arg Ile Pro Arg His Gln
225 230 235 240
Gly Pro Gly Met Val Val Leu Thr Trp Leu Ser Leu Leu Arg Gly Ala
245 250 255

Gly Gln Ala Asn Val Cys Asp Val Val Thr Ser Thr Val Cys Leu Ala
 260 265 270

Val Leu Leu Ala Ala Lys Glu Leu Ser Asp Arg Tyr Arg His Arg Leu
 275 280 285

Arg Val Pro Leu Pro Thr Glu Leu Leu Val Ile Val Val Ala Thr Leu
 290 295 300

Val Ser His Phe Gly Gln Leu His Lys Arg Phe Gly Ser Ser Val Ala
 305 310 315 320

Gly Asp Ile Pro Thr Gly Phe Met Pro Pro Gln Val Pro Glu Pro Arg
 325 330 335

Leu Met Gln Arg Val Ala Leu Asp Ala Val Ala Leu Ala Leu Val Ala
 340 345 350

Ala Ala Phe Ser Ile Ser Leu Ala Glu Met Phe Ala Arg Ser His Gly
 355 360 365

Tyr Ser Val Arg Ala Asn Gln Glu Leu Leu Ala Val His Arg Gly His
 370 375 380

Leu Arg Gly Ala Cys Gln Gly Val Gly Leu Pro Gly Cys Gly Gly Ser
 385 390 395 400

Pro Ala Asp Ala Leu Val Trp Ala Gly Thr Gly Thr Cys Met Leu Val
 405 410 415

Ser Thr Glu Ala Gly Leu Leu Ala Gly Val Ile Leu Ser Leu Leu Ser
 420 425 430

Leu Ala Gly Arg Thr Gln Lys Pro Arg Thr Ala Leu Leu Ala Arg Ile
 435 440 445

Gly Asp Thr Ala Phe Tyr Glu Asp Ala Thr Glu Phe Glu Gly Leu Val
 450 455 460

Pro Glu Pro Gly Val Arg Val Phe Arg Phe Gly Gly Pro Leu Tyr Tyr
 465 470 475 480

Ala Asn Lys Asp Phe Phe Leu Gln Ser Leu Tyr Ser Leu Thr Gly Leu
 485 490 495

Asp Ala Gly Cys Met Ala Ala Arg Arg Lys Glu Gly Gly Ser Glu Thr
 500 505 510

Gly Val Gly Glu Gly Gly Pro Ala Gln Gly Glu Asp Leu Gly Pro Val
515 520 525

Ser Thr Arg Ala Ala Leu Val Pro Ala Ala Ala Gly Phe His Thr Val
530 535 540

Val Ile Asp Cys Ala Pro Leu Leu Phe Leu Asp Ala Ala Gly Val Ser
545 550 555 560

Thr Leu Gln Asp Leu Arg Arg Asp Tyr Gly Ala Leu Gly Ile Ser Leu
565 570 575

Leu Leu Ala Cys Cys Ser Pro Pro Val Arg Asp Ile Leu Ser Arg Gly
580 585 590

Gly Phe Leu Gly Glu Gly Pro Gly Asp Thr Ala Glu Glu Glu Gln Leu
595 600 605

Phe Leu Ser Val His Asp Ala Val Gln Thr Ala Arg Ala Arg His Arg
610 615 620

Glu Leu Glu Ala Thr Asp Ala His Leu
625 630

<210> 15
<211> 406
<212> DNA
<213> Homo sapiens

<400> 15
gtggaggagg ctttctgtaa tacctggaag ctgaccgacc agaactttga tgagtacatg 60
aaggctctag ggatgggctt tgtcactagg caggtgggaa atgtggacaa accaagagtg 120
attatcagtc aagaagaaga caaggtggtg atcaggattc aaagtatggt caagaacaca 180
gaggtagttagt tccatctggg agaagagttt gatgaaacca ctacagatga cagaaactgc 240
aagtttggtt ttagtctgga cagagacaaa ctcatcaca tacagaaatg ggatgacaaa 300
gaaacatatt ttataagaga aattaagtat ggtgaaatgg ttatgacctt tacttttggt 360
gatgatgtgg ttgccgttca ccactataag aaggcataaa aatggt 406

<210> 16
<211> 132
<212> PRT
<213> Homo sapiens

<400> 16
Val Glu Glu Ala Phe Cys Asn Thr Trp Lys Leu Thr Asp Gln Asn Phe
1 5 10 15

Asp Glu Tyr Met Lys Ala Leu Gly Met Gly Phe Val Thr Arg Gln Val
 20 25 30
 Gly Asn Val Asp Lys Pro Arg Val Ile Ile Ser Gln Glu Glu Asp Lys
 35 40 45
 Val Val Ile Arg Ile Gln Ser Met Phe Lys Asn Thr Glu Val Ser Phe
 50 55 60
 His Leu Gly Glu Glu Phe Asp Glu Thr Thr Thr Asp Asp Arg Asn Cys
 65 70 75 80
 Lys Phe Val Val Ser Leu Asp Arg Asp Lys Leu Ile His Ile Gln Lys
 85 90 95
 Trp Asp Asp Lys Glu Thr Tyr Phe Ile Arg Glu Ile Lys Tyr Gly Glu
 100 105 110
 Met Val Met Thr Phe Thr Phe Gly Asp Asp Val Val Ala Val His His
 115 120 125
 Tyr Lys Lys Ala
 130

<210> 17
 <211> 418
 <212> DNA
 <213> Homo sapiens

<400> 17
 ataatggttaa ggggtggagga ggctttctgt aatacctgga agctgaccga ccagaacttt 60
 gatgagtaca tgaaggctct agggatgggc tttgtcacta ggcagggtggg aaatgtggac 120
 aaaccaagag tgattatcag tcaagaagaa gacaagggtg tgatcaggat tcaaagtatg 180
 ttcaagaaca cagaggttag tttccatctg ggagaagagt ttgatgaaac cactacagat 240
 gacagaaact gcaagtttgt tgtagtctg gacagagaca aactcattca catacagaaa 300
 tgggatgaca aagaaacata ttttataaga gaaattaagt atggtgaaat gggttatgacc 360
 tttacttttg gtgatgatgt ggttgccgtt caccactata agaaggcata aaaatgtt 418

<210> 18
 <211> 135
 <212> PRT
 <213> Homo sapiens

<400> 18
 Met Val Arg Val Glu Glu Ala Phe Cys Asn Thr Trp Lys Leu Thr Asp

1	5	10	15
Gln Asn Phe Asp Glu Tyr Met Lys Ala Leu Gly Met Gly Phe Val Thr			
20	25	30	
Arg Gln Val Gly Asn Val Asp Lys Pro Arg Val Ile Ile Ser Gln Glu			
35	40	45	
Glu Asp Lys Val Val Ile Arg Ile Gln Ser Met Phe Lys Asn Thr Glu			
50	55	60	
Val Ser Phe His Leu Gly Glu Glu Phe Asp Glu Thr Thr Thr Asp Asp			
65	70	75	80
Arg Asn Cys Lys Phe Val Val Ser Leu Asp Arg Asp Lys Leu Ile His			
85	90	95	
Ile Gln Lys Trp Asp Asp Lys Glu Thr Tyr Phe Ile Arg Glu Ile Lys			
100	105	110	
Tyr Gly Glu Met Val Met Thr Phe Thr Phe Gly Asp Asp Val Val Ala			
115	120	125	
Val His His Tyr Lys Lys Ala			
130	135		

<210> 19
 <211> 1119
 <212> DNA
 <213> Homo sapiens

<400> 19
 atggagcaca cgcacgccca cctcgcagcc aacagctcgc tgtcttggtg gtcccccggc 60
 tcggcctgcg gcttggtgtt cgtgcccgtg gtctactaca gcctcttgct gtgcctcggt 120
 ttaccagcaa atatcttgac agtgatcatc ctctcccagc tggaggcaag aagacagaag 180
 tcctcctaca actatctctt ggcactcget gctgccgaca tcttggtcct ctttttcata 240
 gtgtttgtgg acttctctgtt ggaagatttc atcttgaaca tgcagatgcc tcagggtcccc 300
 gacaagatca tagaagtgct ggaattctca tccatccaca cctccatatg gattactgta 360
 ccgttaacca ttgacaggta tatcgctgtc tgccacccgc tcaagtacca cacgggtctca 420
 taccagcccc gcacccggaa agtcattgta agtggtttaca tcacctgctt cctgaccagc 480
 atccccattt actggtggcc caacatctgg actgaagact acatcagcac ctctgtgcat 540
 cacgtcctca tctggatcca ctgcttcacc gtctacctgg tgccctgctc catcttcttc 600
 atcttgaact caatcattgt gtacaagctc aggaggaaga gcaattttcg tctccgtggc 660
 tactccacgg ggaagaccac cgccatcttg ttcaccatta cctccatctt tgccacactt 720
 tggggccccc gcatcatcat gattctttac cacctctatg gggcgcccat ccagaaccgc 780
 tggctggtac acatcatgtc cgacattgcc aacatgctag cccttctgaa cacagccatc 840
 aacttcttcc tctactgctt catcagcaag cggttccgca ccatggcagc cgccacgctc 900

aaggctttct tcaagtgcc aagcaacct gtacagttct acaccaatca taacttttcc 960
ataacaagta gccctggat ctgcgcggca aactcacact gcatcaagat gctggtgtac 1020
cagtatgaca aaaatggaaa acctataaaa agtcgtaatg acagcaaaaag ctcctaccag 1080
tttgaagatg ccattggagc ttgtgtcatc atcctgtga 1119

<210> 20
<211> 372
<212> PRT
<213> Homo sapiens

<400> 20
Met Glu His Thr His Ala His Leu Ala Ala Asn Ser Ser Leu Ser Trp
1 5 10 15
Trp Ser Pro Gly Ser Ala Cys Gly Leu Gly Phe Val Pro Val Val Tyr
20 25 30
Tyr Ser Leu Leu Leu Cys Leu Gly Leu Pro Ala Asn Ile Leu Thr Val
35 40 45
Ile Ile Leu Ser Gln Leu Val Ala Arg Arg Gln Lys Ser Ser Tyr Asn
50 55 60
Tyr Leu Leu Ala Leu Ala Ala Ala Asp Ile Leu Val Leu Phe Phe Ile
65 70 75 80
Val Phe Val Asp Phe Leu Leu Glu Asp Phe Ile Leu Asn Met Gln Met
85 90 95
Pro Gln Val Pro Asp Lys Ile Ile Glu Val Leu Glu Phe Ser Ser Ile
100 105 110
His Thr Ser Ile Trp Ile Thr Val Pro Leu Thr Ile Asp Arg Tyr Ile
115 120 125
Ala Val Cys His Pro Leu Lys Tyr His Thr Val Ser Tyr Pro Ala Arg
130 135 140
Thr Arg Lys Val Ile Val Ser Val Tyr Ile Thr Cys Phe Leu Thr Ser
145 150 155 160
Ile Pro Tyr Tyr Trp Trp Pro Asn Ile Trp Thr Glu Asp Tyr Ile Ser
165 170 175
Thr Ser Val His His Val Leu Ile Trp Ile His Cys Phe Thr Val Tyr
180 185 190

Leu Val Pro Cys Ser Ile Phe Phe Ile Leu Asn Ser Ile Ile Val Tyr
 195 200 205

Lys Leu Arg Arg Lys Ser Asn Phe Arg Leu Arg Gly Tyr Ser Thr Gly
 210 215 220

Lys Thr Thr Ala Ile Leu Phe Thr Ile Thr Ser Ile Phe Ala Thr Leu
 225 230 235 240

Trp Ala Pro Arg Ile Ile Met Ile Leu Tyr His Leu Tyr Gly Ala Pro
 245 250 255

Ile Gln Asn Arg Trp Leu Val His Ile Met Ser Asp Ile Ala Asn Met
 260 265 270

Leu Ala Leu Leu Asn Thr Ala Ile Asn Phe Phe Leu Tyr Cys Phe Ile
 275 280 285

Ser Lys Arg Phe Arg Thr Met Ala Ala Ala Thr Leu Lys Ala Phe Phe
 290 295 300

Lys Cys Gln Lys Gln Pro Val Gln Phe Tyr Thr Asn His Asn Phe Ser
 305 310 315 320

Ile Thr Ser Ser Pro Trp Ile Ser Pro Ala Asn Ser His Cys Ile Lys
 325 330 335

Met Leu Val Tyr Gln Tyr Asp Lys Asn Gly Lys Pro Ile Lys Ser Arg
 340 345 350

Asn Asp Ser Lys Ser Ser Tyr Gln Phe Glu Asp Ala Ile Gly Ala Cys
 355 360 365

Val Ile Ile Leu
 370

<210> 21
 <211> 1343
 <212> DNA
 <213> Homo sapiens

<400> 21
 tatggagcac acgcacgccc acctcgcagc caacagctcg ctgtcttggt ggtcccccg 60
 ctgcgcctgc ggcttgggtt tcgtgcccg ggtctactac agcctcttgc tgtgcctcg 120
 tttaccagca aatatcttga cagtgatcat cctctcccag ctgggtggcaa gaagacagaa 180
 gtcctcctac aactatctct tggcactcgc tgctgccgac atcttggtcc tctttttcat 240
 agtgtttgtg gacttcctgt tggaagattt catcttgaac atgcagatgc ctcaggtccc 300

```

cgacaagatc atagaagtgc tggaattctc atccatccac acctccatat ggattactgt 360
accgttaacc attgacaggt atatcactgt ctgccacccg ctcaagtacc acacggtctc 420
ataccacagcc cgcacccgga aagtcattgt aagtgtttac atcacctgct tcctgaccag 480
catccccctat tactgggtggc ccaacatctg gactgaagac tacatcagca cctctgtgca 540
tcacgtcctc atctggatcc actgcttcac cgtctacctg gtgccctgct ccatcttctt 600
catcttgaac tcaatcattg tgtacaagct caggaggaag agcaattttc gtctccgtgg 660
ctactccacg gggaagacca cgcctatctt gttcaccatt acctccatct ttgccacact 720
ttggggcccc cgcctcatca tgattcttta ccacctctat ggggcgcccc tccagaaccg 780
ctggctggta cacatcatgt ccgacattgc caacatgcta gcccttctga acacagccat 840
caacttcttc ctctactgct tcatcagcaa gcggttcgc accatggcag ccgccacgct 900
caaggctttc ttcaagtgcc agaagcaacc tgtacagttc tacaccaatc ataacttttc 960
cataacaagt agccccctgga tctcgccggc aaactcacac tgcacataga tgctggtgta 1020
ccagtatgac aaaaatggaa aacctataaa agtatccccg tgattccata ggtgtggcaa 1080
ctactgcctc tgtctaatac atttccagat gggaagggtg cccatcctat ggctgagcag 1140
ctctccttaa gagtgctaac ccgatttcct gtctcccga gactgggcaa ttctcagact 1200
ggtagatgag aagagatgga agagaagaaa ggagagcatg aagcttgttt ttacttatgc 1260
atattattcc acagagtcgt aatgacagca aaagctccta ccagtttgaa gatgccattg 1320
gagcttggtg catcatcctg tga                                     1343

```

<210> 22
 <211> 353
 <212> PRT
 <213> Homo sapiens

<400> 22

Met	Glu	His	Thr	His	Ala	His	Leu	Ala	Ala	Asn	Ser	Ser	Leu	Ser	Trp
1				5				10					15		
Trp	Ser	Pro	Gly	Ser	Ala	Cys	Gly	Leu	Gly	Phe	Val	Pro	Val	Val	Tyr
			20					25					30		
Tyr	Ser	Leu	Leu	Leu	Cys	Leu	Gly	Leu	Pro	Ala	Asn	Ile	Leu	Thr	Val
		35					40				45				
Ile	Ile	Leu	Ser	Gln	Leu	Val	Ala	Arg	Arg	Gln	Lys	Ser	Ser	Tyr	Asn
		50				55					60				
Tyr	Leu	Leu	Ala	Leu	Ala	Ala	Ala	Asp	Ile	Leu	Val	Leu	Phe	Phe	Ile
	65				70					75					80
Val	Phe	Val	Asp	Phe	Leu	Leu	Glu	Asp	Phe	Ile	Leu	Asn	Met	Gln	Met
				85					90					95	
Pro	Gln	Val	Pro	Asp	Lys	Ile	Ile	Glu	Val	Leu	Glu	Phe	Ser	Ser	Ile
			100					105					110		
His	Thr	Ser	Ile	Trp	Ile	Thr	Val	Pro	Leu	Thr	Ile	Asp	Arg	Tyr	Ile

115		120		125
Thr Val Cys His Pro Leu Lys Tyr His Thr Val Ser Tyr Pro Ala Arg				
130		135		140
Thr Arg Lys Val Ile Val Ser Val Tyr Ile Thr Cys Phe Leu Thr Ser				
145		150		155
				160
Ile Pro Tyr Tyr Trp Trp Pro Asn Ile Trp Thr Glu Asp Tyr Ile Ser				
	165		170	175
Thr Ser Val His His Val Leu Ile Trp Ile His Cys Phe Thr Val Tyr				
	180		185	190
Leu Val Pro Cys Ser Ile Phe Phe Ile Leu Asn Ser Ile Ile Val Tyr				
	195		200	205
Lys Leu Arg Arg Lys Ser Asn Phe Arg Leu Arg Gly Tyr Ser Thr Gly				
	210		215	220
Lys Thr Thr Ala Ile Leu Phe Thr Ile Thr Ser Ile Phe Ala Thr Leu				
	225		230	235
				240
Trp Ala Pro Arg Ile Ile Met Ile Leu Tyr His Leu Tyr Gly Ala Pro				
	245		250	255
Ile Gln Asn Arg Trp Leu Val His Ile Met Ser Asp Ile Ala Asn Met				
	260		265	270
Leu Ala Leu Leu Asn Thr Ala Ile Asn Phe Phe Leu Tyr Cys Phe Ile				
	275		280	285
Ser Lys Arg Phe Arg Thr Met Ala Ala Ala Thr Leu Lys Ala Phe Phe				
	290		295	300
Lys Cys Gln Lys Gln Pro Val Gln Phe Tyr Thr Asn His Asn Phe Ser				
	305		310	315
				320
Ile Thr Ser Ser Pro Trp Ile Ser Pro Ala Asn Ser His Cys Ile Lys				
	325		330	335
Met Leu Val Tyr Gln Tyr Asp Lys Asn Gly Lys Pro Ile Lys Val Ser				
	340		345	350
Pro				

<210> 23
 <211> 2392
 <212> DNA
 <213> Homo sapiens

<400> 23
 tcggcgcgag gattcagtg atgaagagta cttattgcta gaatgttctt cctcatatga 60
 acttgacaac gttctgctct ctaattccat ttatttagct gtttcgaatt gatgaggatg 120
 cagcgaggag ctgccatctg tgaaatgggc cctcaccaga ctccgaatct gccagtatct 180
 tgctcttggg acttccagcc tccggaactg taaacacagc acaaaaaaag ttatgagaac 240
 caagagctct gagaaggctg ccaacgatga tcacagtgtc cgtgtggccc gtgaagatgt 300
 cagagagagt tgcccacctc ttggtctgga aaccttaaaa atcacagact tccagctcca 360
 tgctccacg gtgaagcgct atggcctggg ggcacatcga gggagactca acatccaggc 420
 gggcattaat gaaaatgatt tttatgacgg agcgtggtgc gcgggaagaa atgacctcca 480
 gcagtggatt gaagtggatg ctcggcgcct gaccagattc actggtgtca tcaactcaagg 540
 gaggaactcc ctctggctga gtgactgggt gacatcctat aaggtcatgg tgagcaatga 600
 cagccacacg tgggtcactg ttaagaatgg atctggagac atgatatctg agggaaacag 660
 tgagaaggag atccctgttc tcaatgagct acccgtcccc atggtggccc gctacatccg 720
 cataaacctc cagtcctggt ttgataatgg gagcatctgc atgagaatgg agatcctggg 780
 ctgcccactg ccagatccta ataattatta tcaccgcccg aacgagatga ccaccactga 840
 tgacctgat ttttaagcacc acaattataa ggaaatgcgc caggtacagt tgatgaaagt 900
 tgtgaatgaa atgtgtccca atatcaccag aatttacaac attggaaaaa gccaccaggg 960
 cctgaagctg tatgctgtgg agatctcaga tcaccctggg gagcatgaag tcggtgagcc 1020
 cgagttccac tacatcgcg gggcccacgg caatgaggtg ctgggcccgg agctgctgct 1080
 gctgctggtg cagttcgtgt gtcaggagta cttggcccgg aatgcgcgca tcgtccacct 1140
 ggtggaggag acgcggattc acgtcctccc ctccctcaac cccgatggct acgagaaggc 1200
 ctacgaaggg ggctcggagc tgggaggctg gtccctggga cgctggaccc acgatggaat 1260
 tgacatcaac aacaactttc ctgatttaaa cacgctgctc tgggaggcag aggatcgaca 1320
 gaatgtcccc aggaaagtcc ccaatcacta tattgcaatc cctgagtggg ttctgtcgga 1380
 aaatgccacg gtggtggctg ccgagaccag agcagtcata gcctggatgg aaaaaatccc 1440
 ttttgtgctg ggcggcaacc tgcagggcgg cgagctggtg gtggcgctacc cctacgacct 1500
 ggtgcggtcc ccctggaaga cgcaggaaca cacccccacc cccgacgacc acgtgttccg 1560
 ctggtggtcc tactcctatg cctccacaca ccgcctcatg acagacgccc ggaggagggt 1620
 gtgccacacg gaggacttcc aaaaggagga gggcactgtc aatggggcct cctggcacac 1680
 cgtcgctgga agtctgaacg atttcagcta cttcatata aactgcttcg aactgtccat 1740
 ctacgtgggc tgtgataaat acccacatga gagccagctg cccgaggagt gggagaataa 1800
 ccgggaatct ctgatcgtgt tcatggagca ggttcacgtt ggcattaaag gcttgggtgag 1860
 agattcacat ggaaaaggaa tcccaaagc cattatctcc gtagaaggca ttaaccatga 1920
 catccgaaca gccaacgatg gggattactg gcgcctcctg aaccctggag agtatgtggt 1980
 cacagcaaag gccgaagggt tcaactgcac caccaagaac tgtatggttg gctatgacat 2040
 gggggccaca aggtgtgact tcacacttag caaaaccaac atggccagga tccgagagat 2100
 catggagaag tttgggaagc agcccgtcag cctgccagcc aggcggctga agctgcgggg 2160
 gcggaagaga cgacagcgtg ggtgaccctc ctgggcccct gagactcgtc tgggacccat 2220
 gcaaattaaa ccaacctggt agtagctcca tagtggtgact actcactgtt gtttcctctg 2280
 taattcaaga agtgccctga agagagggtg cattgtgagg caggtcccaa aagggaaggc 2340
 tggaggctga ggctgttttc ttttctttgt tccattttat ccaaataact tg 2392

<210> 24
 <211> 650
 <212> PRT
 <213> Homo sapiens

<400> 24
 Met Arg Thr Lys Ser Ser Glu Lys Ala Ala Asn Asp Asp His Ser Val
 1 5 10 15
 Arg Val Ala Arg Glu Asp Val Arg Glu Ser Cys Pro Pro Leu Gly Leu
 20 25 30
 Glu Thr Leu Lys Ile Thr Asp Phe Gln Leu His Ala Ser Thr Val Lys
 35 40 45
 Arg Tyr Gly Leu Gly Ala His Arg Gly Arg Leu Asn Ile Gln Ala Gly
 50 55 60
 Ile Asn Glu Asn Asp Phe Tyr Asp Gly Ala Trp Cys Ala Gly Arg Asn
 65 70 75 80
 Asp Leu Gln Gln Trp Ile Glu Val Asp Ala Arg Arg Leu Thr Arg Phe
 85 90 95
 Thr Gly Val Ile Thr Gln Gly Arg Asn Ser Leu Trp Leu Ser Asp Trp
 100 105 110
 Val Thr Ser Tyr Lys Val Met Val Ser Asn Asp Ser His Thr Trp Val
 115 120 125
 Thr Val Lys Asn Gly Ser Gly Asp Met Ile Phe Glu Gly Asn Ser Glu
 130 135 140
 Lys Glu Ile Pro Val Leu Asn Glu Leu Pro Val Pro Met Val Ala Arg
 145 150 155 160
 Tyr Ile Arg Ile Asn Pro Gln Ser Trp Phe Asp Asn Gly Ser Ile Cys
 165 170 175
 Met Arg Met Glu Ile Leu Gly Cys Pro Leu Pro Asp Pro Asn Asn Tyr
 180 185 190
 Tyr His Arg Arg Asn Glu Met Thr Thr Thr Asp Asp Leu Asp Phe Lys
 195 200 205
 His His Asn Tyr Lys Glu Met Arg Gln Val Gln Leu Met Lys Val Val
 210 215 220

Asn	Glu	Met	Cys	Pro	Asn	Ile	Thr	Arg	Ile	Tyr	Asn	Ile	Gly	Lys	Ser	225	230	235	240
His	Gln	Gly	Leu	Lys	Leu	Tyr	Ala	Val	Glu	Ile	Ser	Asp	His	Pro	Gly	245	250	255	
Glu	His	Glu	Val	Gly	Glu	Pro	Glu	Phe	His	Tyr	Ile	Ala	Gly	Ala	His	260	265	270	
Gly	Asn	Glu	Val	Leu	Gly	Arg	Glu	Leu	Leu	Leu	Leu	Leu	Val	Gln	Phe	275	280	285	
Val	Cys	Gln	Glu	Tyr	Leu	Ala	Arg	Asn	Ala	Arg	Ile	Val	His	Leu	Val	290	295	300	
Glu	Glu	Thr	Arg	Ile	His	Val	Leu	Pro	Ser	Leu	Asn	Pro	Asp	Gly	Tyr	305	310	315	320
Glu	Lys	Ala	Tyr	Glu	Gly	Gly	Ser	Glu	Leu	Gly	Gly	Trp	Ser	Leu	Gly	325	330	335	
Arg	Trp	Thr	His	Asp	Gly	Ile	Asp	Ile	Asn	Asn	Asn	Phe	Pro	Asp	Leu	340	345	350	
Asn	Thr	Leu	Leu	Trp	Glu	Ala	Glu	Asp	Arg	Gln	Asn	Val	Pro	Arg	Lys	355	360	365	
Val	Pro	Asn	His	Tyr	Ile	Ala	Ile	Pro	Glu	Trp	Phe	Leu	Ser	Glu	Asn	370	375	380	
Ala	Thr	Val	Val	Ala	Ala	Glu	Thr	Arg	Ala	Val	Ile	Ala	Trp	Met	Glu	385	390	395	400
Lys	Ile	Pro	Phe	Val	Leu	Gly	Gly	Asn	Leu	Gln	Gly	Gly	Glu	Leu	Val	405	410	415	
Val	Ala	Tyr	Pro	Tyr	Asp	Leu	Val	Arg	Ser	Pro	Trp	Lys	Thr	Gln	Glu	420	425	430	
His	Thr	Pro	Thr	Pro	Asp	Asp	His	Val	Phe	Arg	Trp	Leu	Ala	Tyr	Ser	435	440	445	
Tyr	Ala	Ser	Thr	His	Arg	Leu	Met	Thr	Asp	Ala	Arg	Arg	Arg	Val	Cys	450	455	460	
His	Thr	Glu	Asp	Phe	Gln	Lys	Glu	Glu	Gly	Thr	Val	Asn	Gly	Ala	Ser	465	470	475	480

Trp His Thr Val Ala Gly Ser Leu Asn Asp Phe Ser Tyr Leu His Thr
 485 490 495
 Asn Cys Phe Glu Leu Ser Ile Tyr Val Gly Cys Asp Lys Tyr Pro His
 500 505 510
 Glu Ser Gln Leu Pro Glu Glu Trp Glu Asn Asn Arg Glu Ser Leu Ile
 515 520 525
 Val Phe Met Glu Gln Val His Arg Gly Ile Lys Gly Leu Val Arg Asp
 530 535 540
 Ser His Gly Lys Gly Ile Pro Asn Ala Ile Ile Ser Val Glu Gly Ile
 545 550 555 560
 Asn His Asp Ile Arg Thr Ala Asn Asp Gly Asp Tyr Trp Arg Leu Leu
 565 570 575
 Asn Pro Gly Glu Tyr Val Val Thr Ala Lys Ala Glu Gly Phe Thr Ala
 580 585 590
 Ser Thr Lys Asn Cys Met Val Gly Tyr Asp Met Gly Ala Thr Arg Cys
 595 600 605
 Asp Phe Thr Leu Ser Lys Thr Asn Met Ala Arg Ile Arg Glu Ile Met
 610 615 620
 Glu Lys Phe Gly Lys Gln Pro Val Ser Leu Pro Ala Arg Arg Leu Lys
 625 630 635 640
 Leu Arg Gly Arg Lys Arg Arg Gln Arg Gly
 645 650

<210> 25
 <211> 328
 <212> DNA
 <213> Homo sapiens

<400> 25
 aaataagatt gaggaagctc ctgaagaagt cttatgtcct cccaagtact taaagctttc 60
 accaaaacac ccagaatcaa atactgctgg aatggacatc tttgccaaat tctctgcata 120
 catcaagaat tcaaggccag aggttaatga agcattagtg aagcatctct taaaaaccct 180
 gcagaaaatg gaatatctga attctcctct ccctgatgaa attgatgaaa atagcatgca 240
 ggacactaag ttttctacac ataaatttct gaatggcaat aaaatggcat tagctgattg 300
 ccatctgctg cccaaactgc atattgtc 328

<210> 26
 <211> 331
 <212> DNA
 <213> Homo sapiens

<400> 26
 aaataagatt gaggaatttc ttgaagaagt cttatgccct cccaagtact taaagctttc 60
 accaaaacac ccagaatcaa atactgctgg aatggacatc ttgccaaat tctctgcata 120
 tatcaagaat tcaaggccag aggctaata agcactggag aggggtctcc tgaaaaccct 180
 gcagaaactg gatgaatata tgaattctcc tctccctgat gaaattgatg aaaatagtat 240
 ggaggacata aagttttcta cacgtaaatt tctggatggc aatgaaatga cattagctga 300
 ttgcaacctg ctgcccacac tgcattattgt c 331

<210> 27
 <211> 247
 <212> PRT
 <213> Homo sapiens

<400> 27
 Met Ala Leu Ser Met Pro Leu Asn Gly Leu Lys Glu Glu Asp Lys Glu
 1 5 10 15
 Pro Leu Ile Glu Leu Phe Val Lys Ala Gly Ser Asp Gly Glu Ser Ile
 20 25 30
 Gly Asn Cys Pro Phe Ser Gln Arg Leu Phe Met Ile Leu Trp Leu Lys
 35 40 45
 Gly Val Val Phe Ser Val Thr Thr Val Asp Leu Lys Arg Lys Pro Ala
 50 55 60
 Asp Leu Gln Asn Leu Ala Pro Gly Thr His Pro Pro Phe Ile Thr Phe
 65 70 75 80
 Asn Ser Glu Val Lys Thr Asp Val Asn Lys Ile Glu Glu Phe Leu Glu
 85 90 95
 Glu Val Leu Cys Pro Pro Lys Tyr Leu Lys Leu Ser Pro Lys His Pro
 100 105 110
 Glu Ser Asn Thr Ala Gly Met Asp Ile Phe Ala Lys Phe Ser Ala Tyr
 115 120 125
 Ile Lys Asn Ser Arg Pro Glu Ala Asn Glu Ala Leu Glu Arg Gly Leu
 130 135 140
 Leu Lys Thr Leu Gln Lys Leu Asp Glu Tyr Leu Asn Ser Pro Leu Pro

145	150	155	160
Asp Glu Ile Asp Glu Asn Ser Met Glu Asp Ile Lys Phe Ser Thr Arg			
	165	170	175
Arg Phe Leu Asp Gly Asp Glu Met Thr Leu Ala Asp Cys Asn Leu Leu			
	180	185	190
Pro Lys Leu His Ile Val Lys Val Val Ala Lys Lys Tyr Arg Asn Phe			
	195	200	205
Asp Ile Pro Lys Gly Met Thr Gly Ile Trp Arg Tyr Leu Thr Asn Ala			
	210	215	220
Tyr Ser Arg Asp Glu Phe Thr Asn Thr Cys Pro Ser Asp Lys Glu Val			
	225	230	235
			240
Glu Ile Ala Tyr Ser Asp Val			
	245		

<210> 28
 <211> 550
 <212> DNA
 <213> Homo sapiens

<400> 28
 tctgaggaca cagccacact cttgtcatgc cattgccctt ctattctttc cttataacat 60
 catgtaagag ggcacagcat gtttcccatg ctggaccctg ctctgctcac tccacacacc 120
 ttctgacacc caccatggac actgttcagc aactggaaga aagagggcac ctgatggaca 180
 gcaaaggctt tgatgaataa taaatacatg aaggaaactag gagtgggact agccctctgc 240
 gaaaaaaagg gtgctatggc caaaaaagat tgtattagct tttttgatgg caaaaacctc 300
 accataaaaa tggagagtac tttaaaatca tacagttttc tcacactcag gggagggaaa 360
 ttcaaagaaa ctacaggtga cggcagaaaa actcagactg cacctttaca tatggcacat 420
 tgggttcgaca tcagaagtgg aatggaaaagg aaggcaaaat aagaaaattg aaagacagga 480
 aattagtggg ggactgcatc ataaacaatg tcacctgtac tcagatctat gaaaaagtag 540
 aataaaaact 550

<210> 29
 <211> 136
 <212> PRT
 <213> Homo sapiens

<400> 29
 Met Asp Thr Val Gln Gln Leu Glu Glu Arg Gly His Leu Met Asp Ser
 1 5 10 15

Lys Gly Phe Asp Glu Asn Lys Tyr Met Lys Glu Leu Gly Val Gly Leu
20 25 30

Ala Leu Cys Glu Lys Lys Gly Ala Met Ala Lys Lys Asp Cys Ile Ser
35 40 45

Phe Phe Asp Gly Lys Asn Leu Thr Ile Lys Met Glu Ser Thr Leu Lys
50 55 60

Ser Tyr Ser Phe Leu Thr Leu Arg Gly Gly Lys Phe Lys Glu Thr Thr
65 70 75 80

Gly Asp Gly Arg Lys Thr Gln Thr Cys Thr Phe Thr Tyr Gly Thr Leu
85 90 95

Val Arg His Gln Lys Trp Asn Gly Lys Glu Gly Lys Ile Arg Lys Leu
100 105 110

Lys Asp Arg Lys Leu Val Val Asp Cys Ile Ile Asn Asn Val Thr Cys
115 120 125

Thr Gln Ile Tyr Glu Lys Val Glu
130 135

<210> 30
<211> 135
<212> PRT
<213> Homo sapiens

<400> 30
Met Ala Thr Val Gln Gln Leu Glu Gly Arg Trp Arg Leu Val Asp Ser
1 5 10 15

Lys Gly Phe Asp Glu Tyr Met Lys Glu Leu Gly Val Gly Ile Ala Leu
20 25 30

Arg Lys Met Gly Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Cys Asp
35 40 45

Gly Lys Asn Leu Thr Ile Lys Thr Glu Ser Thr Leu Lys Thr Thr Gln
50 55 60

Phe Ser Cys Thr Leu Gly Glu Lys Phe Glu Glu Thr Thr Ala Asp Gly
65 70 75 80

Arg Lys Thr Gln Thr Val Cys Asn Phe Thr Asp Gly Ala Leu Val Gln
85 90 95

His Gln Glu Trp Asp Gly Lys Glu Ser Thr Ile Thr Arg Lys Leu Lys
100 105 110

Asp Gly Lys Leu Val Val Glu Cys Val Met Asn Asn Val Thr Cys Thr
115 120 125

Arg Ile Tyr Glu Lys Val Glu
130 135

<210> 31
<211> 135
<212> PRT
<213> Homo sapiens

<400> 31
Met Ala Thr Val Gln Gln Leu Glu Gly Arg Trp Arg Leu Val Asp Ser
1 5 10 15

Lys Gly Phe Asp Glu Tyr Met Lys Glu Leu Gly Val Gly Ile Ala Leu
20 25 30

Arg Lys Met Gly Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Cys Asp
35 40 45

Gly Lys Asn Leu Thr Ile Lys Thr Glu Ser Thr Leu Lys Thr Thr Gln
50 55 60

Phe Ser Cys Thr Leu Gly Glu Lys Phe Glu Glu Thr Thr Ala Asp Gly
65 70 75 80

Arg Lys Thr Gln Thr Val Cys Asn Phe Thr Asp Gly Ala Leu Val Gln
85 90 95

His Gln Glu Trp Asp Gly Lys Glu Ser Thr Ile Thr Arg Lys Leu Lys
100 105 110

Asp Gly Lys Leu Val Val Glu Cys Val Met Asn Asn Val Thr Cys Thr
115 120 125

Arg Ile Tyr Glu Lys Val Glu
130 135

<210> 32
<211> 512
<212> DNA

<213> Homo sapiens

<400> 32

```
atgctgccgc cgccgcggcc cgcagctgcc ttggcgctgc ctgtgctcct gctactgctg 60
gtggtgctga cgccgcccc gaccggcgca aggccatccc caggcccaga ttacctgcgg 120
cgcggctgga tgcggctgct agcggagggc gagggctgcg ctccctgccg gccagaagag 180
tgcgccgcgc cgcggggctg cctggcgggc aggggtgcgc acgcgtgcgg ctgctgctgg 240
gaatgcgcca acctcgaggg ccagctctgc gacctggacc ccagtgtca cttctacggg 300
cactgcggcg agcagcttga gtgccggctg gacacaggcg gcgacctgag ccgcggagag 360
gtgccggaac ctctgtgtgc ctgtcgttcg cagagtccgc tctgcgggtc cgacggtcac 420
acctactccc agatctgccg cctgcaggag gcggcccgcg ctcgggcccga tgccaacctc 480
actgtggcac acccggggcc ctgcgaatcg gg 512
```

<210> 33

<211> 512

<212> DNA

<213> Homo sapiens

<400> 33

```
atgctgccgc cgccgcggcc cgcagctgcc ttggcgctgc ctgtgctcct gctactgctg 60
gtggtgctga cgccgcccc gaccggcgca aggccatccc caggcccaga ttacctgcgg 120
cgcggctgga tgcggctgct agcggagggc gagggctgcg ctccctgccg gccagaagag 180
tgcgccgcgc cgcggggctg cctggcgggc aggggtgcgc acgcgtgcgg ctgctgctgg 240
gaatgcgcca acctcgaggg ccagctctgc gacctggacc ccagtgtca cttctacggg 300
cactgcggcg agcagcttga gtgccggctg gacacaggcg gcgacctgag ccgcggagag 360
gtgccggaac ctctgtgtgc ctgtcgttcg cagagtccgc tctgcgggtc cgacggtcac 420
acctactccc agatctgccg cctgcaggag gcggcccgcg ctcgggcccga tgccaacctc 480
actgtggcac acccggggcc ctgcgaatcg gg 512
```

<210> 34

<211> 304

<212> PRT

<213> Homo sapiens

<400> 34

```
Met Leu Pro Pro Pro Arg Pro Ala Ala Leu Ala Leu Pro Val Leu
  1             5             10             15

Leu Leu Leu Leu Val Val Leu Thr Pro Pro Pro Thr Gly Ala Arg Pro
      20             25             30

Ser Pro Gly Pro Asp Tyr Leu Arg Arg Gly Trp Met Arg Leu Leu Ala
      35             40             45

Glu Gly Glu Gly Cys Ala Pro Cys Arg Pro Glu Glu Cys Ala Ala Pro
      50             55             60
```

Arg Gly Cys Leu Ala Gly Arg Val Arg Asp Ala Cys Gly Cys Cys Trp
65 70 75 80

Glu Cys Ala Asn Leu Glu Gly Gln Leu Cys Asp Leu Asp Pro Ser Ala
85- - - - -90 - - - - -95

His Phe Tyr Gly His Cys Gly Glu Gln Leu Glu Cys Arg Leu Asp Thr
100 105 110

Gly Gly Asp Leu Ser Arg Gly Glu Val Pro Glu Pro Leu Cys Ala Cys
115 120 125

Arg Ser Gln Ser Pro Leu Cys Gly Ser Asp Gly His Thr Tyr Ser Gln
130 135 140

Ile Cys Arg Leu Gln Glu Ala Ala Arg Ala Arg Pro Asp Ala Asn Leu
145 150 155 160

Thr Val Ala His Pro Gly Pro Cys Glu Ser Gly Pro Gln Ile Val Ser
165 170 175

His Pro Tyr Asp Thr Trp Asn Val Thr Gly Gln Asp Val Ile Phe Gly
180 185 190

Cys Glu Val Phe Ala Tyr Pro Met Ala Ser Ile Glu Trp Arg Lys Asp
195 200 205

Gly Leu Asp Ile Gln Leu Pro Gly Asp Asp Pro His Ile Ser Val Gln
210 215 220

Phe Arg Gly Gly Pro Gln Arg Phe Glu Val Thr Gly Trp Leu Gln Ile
225 230 235 240

Gln Ala Val Arg Pro Ser Asp Glu Gly Thr Tyr Arg Cys Leu Ala Arg
245 250 255

Asn Ala Leu Gly Gln Val Glu Ala Pro Ala Ser Leu Thr Val Leu Thr
260 265 270

Pro Asp Gln Leu Asn Ser Thr Gly Ile Pro Gln Leu Arg Ser Leu Asn
275 280 285

Leu Val Pro Glu Glu Glu Ala Glu Ser Glu Glu Asn Asp Asp Tyr Tyr
290 295 300

<210> 35
 <211> 1308
 <212> DNA
 <213> Homo sapiens

<400> 35
 cagcatgagc ttcaccactc gctccacctt ctccaccaac taccggtccc tgggctctgt 60
 ccaggcgccc agctacggcg cccggccggg cagcagcgcg gccagcgtct atgcaggcgc 120
 tgggggctct gggtcccggg tctccgtgtc ccgctccacc agcttcaggg gcggcatggg 180
 gtccgggggc ctggccaccg ggatagccgg gggctctggc ggaatgggag gcatccagaa 240
 cgagaaggag accatgcaaa gcctgaacga ccgcctggcc tcttacctgg acagagtga 300
 gagcctggag accgagaacc ggaggctgga gagcaaaatc cgggagcact tggagaagaa 360
 gggacccccag gtcagagact ggagccatta cttcaagatc atcgaggacc tgagggctca 420
 gatcttcgca aatactgtgg acaatgcccg catcgttctg cagattgaca atgcccgtct 480
 tgctgctgat gacttttagag tcaagtatga gacagagctg gccatgcgcc agtctgtgga 540
 gaacgacatc catgggctcc gcaagggtcat tgatgacacc aatatcacac gactgcagct 600
 ggagacagag atcgaggctc tcaaggagga gctgctcttc atgaagaaga accacgaaga 660
 ggaagtaaaa ggcctacaag cccagattgc cagctctggg ttgaccgtgg aggtagatgc 720
 ccccaaactc caggacctcg ccaagatcat ggcagacatc cgggccaat atgacgagct 780
 ggctcggaag aaccgagagg agctagacaa gtactggtct cagcagattg aggagagcac 840
 cacagtggtc accacacagt ctgctgaggt tggagctgct gagacgacgc tcacagagct 900
 gagacgtaca gtccagtcct tggagatcga cctggactcc atgagaaatc tgaaggccag 960
 cttggagaac agcctgaggg aggtggaggc ccgctacgcc ctacagatgg agcagctcaa 1020
 cgggatcctg ctgcaccttg agtcagagct ggcacagacc cgggcagagg gacagcgcca 1080
 ggcccaggag tatgaggccc tgctgaacat caagggtcaag ctggaggctg agatcgccac 1140
 ctaccgccgc ctgctggaag atggcgagga ctttaatctt ggtgatgcct tggacagcag 1200
 caactccatg caaaccatcc aaaagaccac caccgcccgg atagtggatg gcaaagtggg 1260
 gtctgagacc aatgacacca aagttctgag gcattaagcc agcagaag 1308

<210> 36
 <211> 430
 <212> PRT
 <213> Homo sapiens

<400> 36
 Met Ser Phe Thr Thr Arg Ser Thr Phe Ser Thr Asn Tyr Arg Ser Leu
 1 5 10 15
 Gly Ser Val Gln Ala Pro Ser Tyr Gly Ala Arg Pro Val Ser Ser Ala
 20 25 30
 Ala Ser Val Tyr Ala Gly Ala Gly Gly Ser Gly Ser Arg Ile Ser Val
 35 40 45
 Ser Arg Ser Thr Ser Phe Arg Gly Gly Met Gly Ser Gly Gly Leu Ala

50		55		60
Thr Gly Ile Ala Gly Gly Leu Ala Gly Met Gly Gly Ile Gln Asn Glu				
65		70		75
				80
Lys Glu Thr Met Gln Ser Leu Asn Asp Arg Leu Ala Ser Tyr Leu Asp				
	85		90	95
Arg Val Arg Ser Leu Glu Thr Glu Asn Arg Arg Leu Glu Ser Lys Ile				
	100		105	110
Arg Glu His Leu Glu Lys Lys Gly Pro Gln Val Arg Asp Trp Ser His				
	115		120	125
Tyr Phe Lys Ile Ile Glu Asp Leu Arg Ala Gln Ile Phe Ala Asn Thr				
	130		135	140
Val Asp Asn Ala Arg Ile Val Leu Gln Ile Asp Asn Ala Arg Leu Ala				
145		150		155
				160
Ala Asp Asp Phe Arg Val Lys Tyr Glu Thr Glu Leu Ala Met Arg Gln				
	165		170	175
Ser Val Glu Asn Asp Ile His Gly Leu Arg Lys Val Ile Asp Asp Thr				
	180		185	190
Asn Ile Thr Arg Leu Gln Leu Glu Thr Glu Ile Glu Ala Leu Lys Glu				
	195		200	205
Glu Leu Leu Phe Met Lys Lys Asn His Glu Glu Glu Val Lys Gly Leu				
	210		215	220
Gln Ala Gln Ile Ala Ser Ser Gly Leu Thr Val Glu Val Asp Ala Pro				
225		230		235
				240
Lys Ser Gln Asp Leu Ala Lys Ile Met Ala Asp Ile Arg Ala Gln Tyr				
	245		250	255
Asp Glu Leu Ala Arg Lys Asn Arg Glu Glu Leu Asp Lys Tyr Trp Ser				
	260		265	270
Gln Gln Ile Glu Glu Ser Thr Thr Val Val Thr Thr Gln Ser Ala Glu				
	275		280	285
Val Gly Ala Ala Glu Thr Thr Leu Thr Glu Leu Arg Arg Thr Val Gln				
	290		295	300
Ser Leu Glu Ile Asp Leu Asp Ser Met Arg Asn Leu Lys Ala Ser Leu				

305		310		315		320
Glu Asn Ser Leu Arg Glu Val Glu Ala Arg Tyr Ala Leu Gln Met Glu						
	325		330		335	
Gln Leu Asn Gly Ile Leu Leu His Leu Glu Ser Glu Leu Ala Gln Thr						
	340		345		350	
Arg Ala Glu Gly Gln Arg Gln Ala Gln Glu Tyr Glu Ala Leu Leu Asn						
	355		360		365	
Ile Lys Val Lys Leu Glu Ala Glu Ile Ala Thr Tyr Arg Arg Leu Leu						
	370		375		380	
Glu Asp Gly Glu Asp Phe Asn Leu Gly Asp Ala Leu Asp Ser Ser Asn						
385		390		395		400
Ser Met Gln Thr Ile Gln Lys Thr Thr Thr Arg Arg Ile Val Asp Gly						
	405		410		415	
Lys Val Val Ser Glu Thr Asn Asp Thr Lys Val Leu Arg His						
	420		425		430	

<210> 37
 <211> 722
 <212> PRT
 <213> Mus musculus

<400> 37															
Met Trp Gly Leu Leu Leu Ala Val Thr Ala Phe Ala Pro Ser Val Gly															
1		5				10							15		
Leu Gly Leu Gly Ala Pro Ser Ala Ser Val Pro Gly Leu Ala Pro Gly															
	20					25							30		
Ser Thr Leu Ala Pro His Ser Ser Val Ala Gln Pro Ser Thr Lys Ala															
	35					40							45		
Asn Glu Thr Ser Glu Arg His Val Arg Leu Arg Val Ile Lys Lys Lys															
	50					55							60		
Lys Ile Val Val Lys Lys Arg Lys Lys Leu Arg His Pro Gly Pro Leu															
65					70				75						80
Gly Thr Ala Arg Pro Val Val Pro Thr His Pro Ala Lys Thr Leu Thr															
	85							90						95	

Leu Pro Glu Lys Gln Glu Pro Gly Cys Pro Pro Leu Gly Leu Glu Ser
 100 105 110

Leu Arg Val Ser Asp Ser Gln Leu Glu Ala Ser Ser Ser Gln Ser Phe
 115 120 125

Gly Leu Gly Ala His Arg Gly Arg Leu Asn Ile Gln Ser Gly Leu Glu
 130 135 140

Asp Gly Asp Leu Tyr Asp Gly Ala Trp Cys Ala Glu Gln Gln Asp Thr
 145 150 155 160

Glu Pro Trp Leu Gln Val Asp Ala Lys Asn Pro Val Arg Phe Ala Gly
 165 170 175

Ile Val Thr Gln Gly Arg Asn Ser Val Trp Arg Tyr Asp Trp Val Thr
 180 185 190

Ser Phe Lys Val Gln Phe Ser Asn Asp Ser Gln Thr Trp Trp Lys Ser
 195 200 205

Arg Asn Ser Thr Gly Met Asp Ile Val Phe Pro Ala Asn Ser Asp Ala
 210 215 220

Glu Thr Pro Val Leu Asn Leu Leu Pro Glu Pro Gln Val Ala Arg Phe
 225 230 235 240

Ile Arg Leu Leu Pro Gln Thr Trp Phe Gln Gly Gly Val Pro Cys Leu
 245 250 255

Arg Ala Glu Ile Leu Ala Cys Pro Val Ser Asp Pro Asn Asp Leu Phe
 260 265 270

Pro Glu Ala His Thr Leu Gly Ser Ser Asn Ser Leu Asp Phe Arg His
 275 280 285

His Asn Tyr Lys Ala Met Arg Lys Leu Met Lys Gln Val Asn Glu Gln
 290 295 300

Cys Pro Asn Ile Thr Arg Ile Tyr Ser Ile Gly Lys Ser His Gln Gly
 305 310 315 320

Leu Lys Leu Tyr Val Met Glu Met Ser Asp His Pro Gly Glu His Glu
 325 330 335

Leu Gly Glu Pro Glu Val Arg Tyr Val Ala Gly Met His Gly Asn Glu
 340 345 350

Ala Leu Gly Arg Glu Leu Leu Leu Leu Leu Met Gln Phe Leu Cys His
 355 360 365

Glu Phe Leu Arg Gly Asp Pro Arg Val Thr Arg Leu Leu Thr Glu Thr
 370 375 380

Arg Ile His Leu Leu Pro Ser Met Asn Pro Asp Gly Tyr Glu Thr Ala
 385 390 395 400

Tyr His Arg Gly Ser Glu Leu Val Gly Trp Ala Glu Gly Arg Trp Thr
 405 410 415

His Gln Gly Ile Asp Leu Asn His Asn Phe Ala Asp Leu Asn Thr Gln
 420 425 430

Leu Trp Tyr Ala Glu Asp Asp Gly Leu Val Pro Asp Thr Val Pro Asn
 435 440 445

His His Leu Pro Leu Pro Thr Tyr Tyr Thr Leu Pro Asn Ala Thr Val
 450 455 460

Ala Pro Glu Thr Trp Ala Val Ile Lys Trp Met Lys Arg Ile Pro Phe
 465 470 475 480

Val Leu Ser Ala Asn Leu His Gly Gly Glu Leu Val Val Ser Tyr Pro
 485 490 495

Phe Asp Met Thr Arg Thr Pro Trp Ala Ala Arg Glu Leu Thr Pro Thr
 500 505 510

Pro Asp Asp Ala Val Phe Arg Trp Leu Ser Thr Val Tyr Ala Gly Thr
 515 520 525

Asn Arg Ala Met Gln Asp Thr Asp Arg Arg Pro Cys His Ser Gln Asp
 530 535 540

Phe Ser Leu His Gly Asn Val Ile Asn Gly Ala Asp Trp His Thr Val
 545 550 555 560

Pro Gly Ser Met Asn Asp Phe Ser Tyr Leu His Thr Asn Cys Phe Glu
 565 570 575

Val Thr Val Glu Leu Ser Cys Asp Lys Phe Pro His Glu Lys Glu Leu
 580 585 590

Pro Gln Glu Trp Glu Asn Asn Lys Asp Ala Leu Leu Thr Tyr Leu Glu
 595 600 605

Gln Val Arg Met Gly Ile Thr Gly Val Val Arg Asp Lys Asp Thr Glu
610 615 620

Leu Gly Ile Ala Asp Ala Val Ile Ala Val Glu Gly Ile Asn His Asp
625 630 635 640

Val Thr Thr Ala Trp Gly Gly Asp Tyr Trp Arg Leu Leu Thr Pro Gly
645 650 655

Asp Tyr Val Val Thr Ala Ser Ala Glu Gly Tyr His Thr Val Arg Gln
660 665 670

His Cys Gln Val Thr Phe Glu Glu Gly Pro Val Pro Cys Asn Phe Leu
675 680 685

Leu Thr Lys Thr Pro Lys Glu Arg Leu Arg Glu Leu Leu Ala Thr Arg
690 695 700

Gly Lys Leu Pro Pro Asp Leu Arg Arg Lys Leu Glu Arg Leu Arg Gly
705 710 715 720

Gln Lys

<210> 38
<211> 734
<212> PRT
<213> Homo sapiens

<400> 38
Met Trp Gly Leu Leu Leu Ala Leu Ala Ala Phe Ala Pro Ala Val Gly
1 5 10 15

Pro Ala Leu Gly Ala Pro Arg Asn Ser Val Leu Gly Leu Ala Gln Pro
20 25 30

Gly Thr Thr Lys Val Pro Gly Ser Thr Pro Ala Leu His Ser Ser Pro
35 40 45

Ala Gln Pro Pro Ala Glu Thr Ala Asn Gly Thr Ser Glu Gln His Val
50 55 60

Arg Ile Arg Val Ile Lys Lys Lys Lys Val Ile Met Lys Lys Arg Lys
65 70 75 80

Lys Leu Thr Leu Thr Arg Pro Thr Pro Leu Val Thr Ala Gly Pro Leu
85 90 95

Val	Arg	Tyr	Val	Ala	Gly	Met	His	Gly	Asn	Glu	Ala	Leu	Gly	Arg	Glu	355	360	365	
Leu	Leu	Leu	Leu	Leu	Met	Gln	Phe	Leu	Cys	His	Glu	Phe	Leu	Arg	Gly	370	375	380	
Asn	Pro	Gln	Val	Thr	Arg	Leu	Leu	Ser	Glu	Met	Arg	Ile	His	Leu	Leu	385	390	395	400
Pro	Ser	Met	Asn	Pro	Asp	Gly	Tyr	Glu	Ile	Ala	Tyr	His	Arg	Gly	Ser	405	410	415	
Glu	Leu	Val	Gly	Trp	Ala	Glu	Gly	Arg	Trp	Asn	Asn	Gln	Ser	Ile	Asp	420	425	430	
Leu	Asn	His	Asn	Phe	Ala	Asp	Leu	Asn	Thr	Pro	Leu	Trp	Glu	Ala	Gln	435	440	445	
Asp	Asp	Gly	Lys	Val	Pro	His	Ile	Val	Pro	Asn	His	His	Leu	Pro	Leu	450	455	460	
Pro	Thr	Tyr	Tyr	Thr	Leu	Pro	Asn	Ala	Thr	Val	Ala	Pro	Glu	Thr	Arg	465	470	475	480
Ala	Val	Ile	Lys	Trp	Met	Lys	Arg	Ile	Pro	Phe	Val	Leu	Ser	Ala	Asn	485	490	495	
Leu	His	Gly	Gly	Glu	Leu	Val	Val	Ser	Tyr	Pro	Phe	Asp	Met	Thr	Arg	500	505	510	
Thr	Pro	Trp	Ala	Ala	Arg	Glu	Leu	Thr	Pro	Thr	Pro	Asp	Asp	Ala	Val	515	520	525	
Phe	Arg	Trp	Leu	Ser	Thr	Val	Tyr	Ala	Gly	Ser	Asn	Leu	Ala	Met	Gln	530	535	540	
Asp	Thr	Ser	Arg	Arg	Pro	Cys	His	Ser	Gln	Asp	Phe	Ser	Val	His	Gly	545	550	555	560
Asn	Ile	Ile	Asn	Gly	Ala	Asp	Trp	His	Thr	Val	Pro	Gly	Ser	Met	Asn	565	570	575	
Asp	Phe	Ser	Tyr	Leu	His	Thr	Asn	Cys	Phe	Glu	Val	Thr	Val	Glu	Leu	580	585	590	
Ser	Cys	Asp	Lys	Phe	Pro	His	Glu	Asn	Glu	Leu	Pro	Gln	Glu	Trp	Glu	595	600	605	

Asn Asn Lys Asp Ala Leu Leu Thr Tyr Leu Glu Gln Val Arg Met Gly
610 615 620

Ile Ala Gly Val Val Arg Asp Lys Asp Thr Glu Leu Gly Ile Ala Asp
625 630 635 640

Ala Val Ile Ala Val Asp Gly Ile Asn His Asp Val Thr Thr Ala Trp
645 650 655

Gly Gly Asp Tyr Trp Arg Leu Leu Thr Pro Gly Asp Tyr Met Val Thr
660 665 670

Ala Ser Ala Glu Gly Tyr His Ser Val Thr Arg Asn Cys Arg Val Thr
675 680 685

Phe Glu Glu Gly Pro Phe Pro Cys Asn Phe Val Leu Thr Lys Thr Pro
690 695 700

Lys Gln Arg Leu Arg Glu Leu Leu Ala Ala Gly Ala Lys Val Pro Pro
705 710 715 720

Asp Leu Arg Arg Arg Leu Glu Arg Leu Arg Gly Gln Lys Asp
725 730

<210> 39
<211> 267
<212> DNA
<213> Homo sapiens

<400> 39
ggaaggacac cgacccgtcc atctaccgga tccacgctgg ggacgtgtat ctctacgggg 60
gccgggggct gctgaacgtc agccggatca tcgtccaccc caactatgtc actgcggggc 120
tgggtgcgga tgtggccctg ctccagctgg tgagcccat gatcggagcc gctaattgtca 180
ggacggtcaa gctctccccg gtctcgctgg agctcacccc gaaggaccag tgctgggtga 240
ctggctgggg agcgatcagg atgttcg 267

<210> 40
<211> 267
<212> DNA
<213> Homo sapiens

<400> 40
ggaaggacac cgacccgtcc atctaccgga tccacgctgg ggacgtgtat ctctacgggg 60
gccgggggct gctgaacgtc agccggatca tcgtccaccc caactatgtc actgcggggc 120
tgggtgcgga tgtggccctg ctccagctgg tgagcccat gatctgagcc gctaattgtca 180

ggacgggtcaa gctctccccg gtctcgctgg agctcacccc gaaggaccag tgctggggtga 240
 ctggctgggg agcgatcagg atgttcg 267

<210> 41
 <211> 255
 <212> PRT
 <213> Homo sapiens

<400> 41
 Pro Val Pro Glu Asn Asp Leu Val Gly Ile Val Gly Gly His Asn Ala
 1 5 10 15
 Pro Pro Gly Lys Trp Pro Trp Gln Val Ser Leu Arg Val Tyr Ser Tyr
 20 25 30
 His Trp Ala Ser Trp Ala His Ile Cys Gly Gly Ser Leu Ile His Pro
 35 40 45
 Gln Trp Val Leu Thr Ala Ala His Cys Ile Phe Trp Lys Asp Thr Asp
 50 55 60
 Pro Ser Ile Tyr Arg Ile His Ala Gly Asp Val Tyr Leu Tyr Gly Gly
 65 70 75 80
 Arg Gly Leu Leu Asn Val Ser Arg Ile Ile Val His Pro Asn Tyr Val
 85 90 95
 Thr Ala Gly Leu Gly Ala Asp Val Ala Leu Leu Gln Leu Val Ser Pro
 100 105 110
 Met Ile Gly Ala Ala Asn Val Arg Thr Val Lys Leu Ser Pro Val Ser
 115 120 125
 Leu Glu Leu Thr Pro Lys Asp Gln Cys Trp Val Thr Gly Trp Gly Ala
 130 135 140
 Ile Arg Met Phe Glu Ser Leu Pro Pro Pro Tyr Arg Leu Gln Gln Ala
 145 150 155 160
 Ser Val Gln Val Leu Glu Asn Ala Val Cys Glu Gln Pro Tyr Arg Asn
 165 170 175
 Ala Ser Gly His Thr Gly Asp Arg Gln Leu Ile Leu Asp Asp Met Leu
 180 185 190
 Cys Ala Gly Ser Glu Gly Arg Asp Ser Cys Gln Gly Asp Ser Gly Gly
 195 200 205

Pro Leu Val Cys Arg Leu Arg Gly Ser Trp Arg Leu Val Gly Val Val
 210 215 220

Ser Trp Gly Tyr Gly Cys Thr Leu Arg Asp Phe Pro Gly Val Tyr Thr
 225 230 235 240

His Val Gln Ile Tyr Val Leu Trp Ile Leu Gln Gln Val Gly Glu
 245 250 255

<210> 42
 <211> 252
 <212> PRT
 <213> Mus musculus

<400> 42
 Pro Arg Pro Ala Asn Gln Arg Val Gly Ile Val Gly Gly His Glu Ala
 1 5 10 15

Ser Glu Ser Lys Trp Pro Trp Gln Val Ser Leu Arg Phe Lys Leu Asn
 20 25 30

Tyr Trp Ile His Phe Cys Gly Gly Ser Leu Ile His Pro Gln Trp Val
 35 40 45

Leu Thr Ala Ala His Cys Val Gly Pro His Ile Lys Ser Pro Gln Leu
 50 55 60

Phe Arg Val Gln Leu Arg Glu Gln Tyr Leu Tyr Tyr Gly Asp Gln Leu
 65 70 75 80

Leu Ser Leu Asn Arg Ile Val Val His Pro His Tyr Tyr Thr Ala Glu
 85 90 95

Gly Gly Ala Asp Val Ala Leu Leu Glu Leu Glu Val Pro Val Asn Val
 100 105 110

Ser Thr His Ile His Pro Ile Ser Leu Pro Pro Ala Ser Glu Thr Phe
 115 120 125

Pro Pro Gly Thr Ser Cys Trp Val Thr Gly Trp Gly Asp Ile Asp Asn
 130 135 140

Asp Glu Pro Leu Pro Pro Pro Tyr Pro Leu Lys Gln Val Lys Val Pro
 145 150 155 160

Ile Val Glu Asn Ser Leu Cys Asp Arg Lys Tyr His Thr Gly Leu Tyr

Gln Leu Val Ser Pro Met Ile Gly Ala Ala Asn Val Arg Thr Val Lys
 130 135 140

Leu Ser Pro Val Ser Leu Glu Leu Thr Pro Lys Asp Gln Cys Trp Val
 145 150 155 160

Thr Gly Trp Gly Ala Ile Arg Met Phe Glu Ser Leu Pro Pro Pro Tyr
 165 170 175

Arg Leu Gln Gln Ala Ser Val Gln Val Leu Glu Asn Ala Val Cys Glu
 180 185 190

Gln Pro Tyr Arg Asn Ala Ser Gly His Thr Gly Asp Arg Gln Leu Ile
 195 200 205

Leu Asp Asp Met Leu Cys Ala Gly Ser Glu Gly Arg Asp Ser Cys Gln
 210 215 220

Gly Asp Ser Gly Gly Pro Leu Val Cys Arg Leu Arg Gly Ser Trp Arg
 225 230 235 240

Leu Val Gly Val Val Ser Trp Gly Tyr Gly Cys Thr Leu Arg Asp Phe
 245 250 255

Pro Gly Val Tyr Thr His Val Gln Ile Tyr Val Leu Trp Ile Leu Gln
 260 265 270

Gln Val Gly Glu Leu Pro
 275

<210> 44
 <211> 275
 <212> PRT
 <213> Homo sapiens

<400> 44
 Met Leu Asn Leu Leu Leu Leu Ala Leu Pro Val Leu Ala Ser Arg Ala
 1 5 10 15

Tyr Ala Ala Pro Ala Pro Gly Gln Ala Leu Gln Arg Val Gly Ile Val
 20 25 30

Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro Trp Gln Val Ser Leu
 35 40 45

Arg Val His Gly Pro Tyr Trp Met His Phe Cys Gly Gly Ser Leu Ile
 50 55 60

His Pro Gln Trp Val Leu Thr Ala Ala His Cys Val Gly Pro Asp Val
65 70 75 80

Lys Asp Leu Ala Ala Leu Arg Val Gln Leu Arg Glu Gln His Leu Tyr
85 90 95

Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg Ile Ile Val His Pro Gln
100 105 110

Phe Tyr Thr Ala Gln Ile Gly Ala Asp Ile Ala Leu Leu Glu Leu Glu
115 120 125

Glu Pro Val Lys Val Ser Ser His Val His Thr Val Thr Leu Pro Pro
130 135 140

Ala Ser Glu Thr Phe Pro Pro Gly Met Pro Cys Trp Val Thr Gly Trp
145 150 155 160

Gly Asp Val Asp Asn Asp Glu Arg Leu Pro Pro Pro Phe Pro Leu Lys
165 170 175

Gln Val Lys Val Pro Ile Met Glu Asn His Ile Cys Asp Ala Lys Tyr
180 185 190

His Leu Gly Ala Tyr Thr Gly Asp Asp Val Arg Ile Val Arg Asp Asp
195 200 205

Met Leu Cys Ala Gly Asn Thr Arg Arg Asp Ser Cys Gln Gly Asp Ser
210 215 220

Gly Gly Pro Leu Val Cys Lys Val Asn Gly Thr Trp Leu Gln Ala Gly
225 230 235 240

Val Val Ser Trp Gly Glu Gly Cys Ala Gln Pro Asn Arg Pro Gly Ile
245 250 255

Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile His His Tyr Val Pro
260 265 270

Lys Lys Pro
275

<210> 45
<211> 1170
<212> DNA
<213> Homo sapiens

<400> 45

```
caggctcgccc acgggacctg acgcaacagg atggacgagt cccctgagcc tctgcagcag 60
ggcagagggc cggtgccggt ccgacgccag cggccagcac cccgggggtct gcgtgagatg 120
ctgaaggcca ggctgtggtg cagctgctcg tgcagtgtgc tgtgcgtccg ggcgctggtg 180
caggacctgc tccccgccac gcgctggctg cgtcagtacc gcccgcggga gtacctggca 240
ggcgacgtca tgtctgggct ggtcatcggc atcatcctgg tcccgaggc catcgccctac 300
tcattgctgg ccgggctgca gcccatctac agcctctata cgtccttctt cgccaacctc 360
atctacttcc tcatgggcac ctcacggcat gtctccgtgg gcattctcag cctgctttgc 420
ctcatggtgg ggcaggtggt ggaccgggag ctccagctgg ccggctttga cccctcccag 480
gacggcctgc agcccggagc caacagcagc accctcaacg gctcggctgc catgctggac 540
tgcgggctg actgctacgc catccgtgtc gccaccgccc tcacgctgat gaccgggctt 600
taccaggtcc tcatgggcgt cctccggctg ggcttcgtgt ccgcctacct ctcacagcca 660
ctgctcgatg gctttgccat gggggcctcc gtgaccatcc tgacctcgca gctcaaacac 720
ctgctgggcg tgcggatccc gcggcaccag gggcccggca tgggtggctct cacatggctg 780
agcctgctgc gcggcgccgg gcaggccaac gtgtgcgacg tggtcaccag cacggtgtgc 840
ctggcggtgc tgctagccgc gaaggagctc tcagaccgct accgacaccg cctgaggggtg 900
ccgctgccc aaggagctgct ggtcatcgct gtggccacac tcgtgtcgca cttcgggcag 960
ctccacaagc gctttggctc gagcgtggct ggcgacatcc ccacgggttt catgccccct 1020
caggctcccag agcccaggct gatgcagcgt gtggctttgg atgccgtggc cctggccctc 1080
gtggtcgccg cttctccat ctgctggcg gagatgttcg cccgcagtca cggctactct 1140
gtgctgcca accaggagct gctggctgtg                                     1170
```

<210> 46

<211> 1170

<212> DNA

<213> Homo sapiens

<400> 46

```
caggctcgccc acgggacctg acgcaacagg atggacgagt cccctgagcc tctgcagcag 60
ggcagagggc cggtgccggt ccgacggcag cggccagcac cccgggggtct gcgtgagatg 120
ctgaaggcca ggctgtggtg cagctgctcg tgcagtgtgc tgtgcgtccg ggcgctggtg 180
caggacctgc tccccgccac gcgctggctg cgtcagtacc gcccgcggga gtacctggca 240
ggcgacgtca tgtctgggct ggtcatcggc atcatcctgg tcccgaggc catcgccctac 300
tcattgctgg ccgggctgca gcccatctac agcctctata cgtccttctt cgccaacctc 360
atctacttcc tcatgggcac ctcacggcat gtctccgtgg gcattctcag cctgctttgc 420
ctcatggtgg ggcaggtggt ggaccgggag ctccagctgg ccggctttga cccctcccag 480
gacggcctgc agcccggagc caacagcagc accctcaacg gctcggctgc catgctggac 540
tgcgggctg actgctacgc catccgtgtc gccaccgccc tcacgctgat gaccgggctt 600
taccaggtcc tcatgggcgt cctccggctg ggcttcgtgt ccgcctacct ctcacagcca 660
ctgctcgatg gctttgccat gggggcctcc gtgaccatcc tgacctcgca gctcaaacac 720
ctgctgggcg tgcggatccc gcggcaccag gggcccggca tgggtggctct cacatggctg 780
agcctgctgc gcggcgccgg gcaggccaac gtgtgcgacg tggtcaccag cacggtgtgc 840
ctggcggtgc tgctagccgc gaaggagctc tcagaccgct accgacaccg cctgaggggtg 900
ccgctgccc aaggagctgct ggtcatcgct gtggccacac tcgtgtcgca cttcgggcag 960
ctccacaagc gctttggctc gagcgtggct ggcgacatcc ccacgggttt catgccccct 1020
caggctcccag agcccaggct gatgcagcgt gtggctttgg atgccgtggc cctggccctc 1080
```

gtggctgccg ccttctccat ctcgctggcg gagatgttcg cccgcagtca cggctactct 1140
 gtgcgtgccca accaggagct gctggctgtg 1170

<210> 47
 <211> 434
 <212> PRT
 <213> Homo sapiens

<400> 47
 Met Asp Glu Ser Pro Glu Pro Leu Gln Gln Gly Arg Gly Pro Val Pro
 1 5 10 15
 Val Arg Arg Gln Arg Pro Ala Pro Arg Gly Leu Arg Glu Met Leu Lys
 20 25 30
 Ala Arg Leu Trp Cys Ser Cys Ser Cys Ser Val Leu Cys Val Arg Ala
 35 40 45
 Leu Val Gln Asp Leu Leu Pro Ala Thr Arg Trp Leu Arg Gln Tyr Arg
 50 55 60
 Pro Arg Glu Tyr Leu Ala Gly Asp Val Met Ser Gly Leu Val Ile Gly
 65 70 75 80
 Ile Ile Leu Val Pro Gln Ala Ile Ala Tyr Ser Leu Leu Ala Gly Leu
 85 90 95
 Gln Pro Ile Tyr Ser Leu Tyr Thr Ser Phe Phe Ala Asn Leu Ile Tyr
 100 105 110
 Phe Leu Met Gly Thr Ser Arg His Val Ser Val Gly Ile Phe Ser Leu
 115 120 125
 Leu Cys Leu Met Val Gly Gln Val Val Asp Arg Glu Leu Gln Leu Ala
 130 135 140
 Gly Phe Asp Pro Ser Gln Asp Gly Leu Gln Pro Gly Ala Asn Ser Ser
 145 150 155 160
 Thr Leu Asn Gly Ser Ala Ala Met Leu Asp Cys Gly Arg Asp Cys Tyr
 165 170 175
 Ala Ile Arg Val Ala Thr Ala Leu Thr Leu Met Thr Gly Leu Tyr Gln
 180 185 190
 Val Leu Met Gly Val Leu Arg Leu Gly Phe Val Ser Ala Tyr Leu Ser
 195 200 205

Gln Pro Leu Leu Asp Gly Phe Ala Met Gly Ala Ser Val Thr Ile Leu
 210 215 220

Thr Ser Gln Leu Lys His Leu Leu Gly Val Arg Ile Pro Arg His Gln
 225 230 235 240

Gly Pro Gly Met Val Val Leu Thr Trp Leu Ser Leu Leu Arg Gly Ala
 245 250 255

Gly Gln Ala Asn Val Cys Asp Val Val Thr Ser Thr Val Cys Leu Ala
 260 265 270

Val Leu Leu Ala Ala Lys Glu Leu Ser Asp Arg Tyr Arg His Arg Leu
 275 280 285

Arg Val Pro Leu Pro Thr Glu Leu Leu Val Ile Val Val Ala Thr Leu
 290 295 300

Val Ser His Phe Gly Gln Leu His Lys Arg Phe Gly Ser Ser Val Ala
 305 310 315 320

Gly Asp Ile Pro Thr Gly Phe Met Pro Pro Gln Val Pro Glu Pro Arg
 325 330 335

Leu Met Gln Arg Val Ala Leu Asp Ala Val Ala Leu Ala Leu Val Ala
 340 345 350

Ala Ala Phe Ser Ile Ser Leu Ala Glu Met Phe Ala Arg Ser His Gly
 355 360 365

Tyr Ser Val Arg Ala Asn Gln Glu Leu Leu Ala Val His Arg Gly His
 370 375 380

Leu Arg Gly Ala Cys Gln Gly Val Gly Leu Pro Gly Cys Gly Gly Ser
 385 390 395 400

Pro Ala Asp Ala Leu Val Trp Ala Gly Thr Gly Thr Cys Met Leu Val
 405 410 415

Ser Thr Glu Ala Gly Leu Leu Ala Gly Val Ile Leu Ser Leu Leu Ser
 420 425 430

Leu Ala

<210> 48

<211> 435

<212> PRT

<213> Rattus rattus

<400> 48

Met Asp Ala Ser Pro Glu Pro Pro Gln Lys Gly Gly Thr Leu Val Leu
1 5 10 15
Val Arg Arg Gln Pro Pro Val Ser Gln Gly Leu Leu Glu Thr Leu Lys
20 25 30
Ala Arg Leu Lys Lys Ser Cys Thr Cys Ser Met Pro Cys Ala Gln Ala
35 40 45
Leu Val Gln Gly Leu Phe Pro Val Ile Arg Trp Leu Pro Gln Tyr Arg
50 55 60
Leu Lys Glu Tyr Leu Ala Gly Asp Val Met Ser Gly Leu Val Ile Gly
65 70 75 80
Ile Ile Leu Val Pro Gln Ala Ile Ala Tyr Ser Leu Leu Ala Gly Leu
85 90 95
Gln Pro Ile Tyr Ser Leu Tyr Thr Ser Phe Phe Ala Asn Leu Ile Tyr
100 105 110
Phe Leu Met Gly Thr Ser Arg His Val Asn Val Gly Ile Phe Ser Leu
115 120 125
Leu Cys Leu Met Val Gly Gln Val Val Asp Arg Glu Leu Gln Leu Ala
130 135 140
Gly Phe Asp Pro Ser Gln Asp Ser Leu Gly Pro Gly Asn Asn Asp Ser
145 150 155 160
Thr Leu Asn Asn Thr Ala Thr Leu Thr Val Gly Leu Gln Asp Cys Gly
165 170 175
Arg Asp Cys His Ala Ile Arg Ile Ala Thr Ala Leu Thr Leu Met Ala
180 185 190
Gly Leu Tyr Gln Val Leu Met Gly Ile Leu Arg Leu Gly Phe Val Ser
195 200 205
Thr Tyr Leu Ser Gln Pro Leu Leu Asp Gly Phe Ala Met Gly Ala Ser
210 215 220
Val Thr Ile Leu Thr Ser Gln Ala Lys His Leu Leu Gly Val Arg Ile

225		230		235		240
Pro Arg His Gln Gly Leu Gly Met Val Ile His Thr Trp Leu Ser Leu						
	245		250		255	
Leu Gln Asn Val Gly Gln Ala Asn Leu Cys Asp Val Val Thr Ser Ala						
	260		265		270	
Val Cys Leu Ala Val Leu Leu Thr Ala Lys Glu Leu Ser Asp Arg Tyr						
	275		280		285	
Arg His Tyr Leu Lys Val Pro Val Pro Thr Glu Leu Leu Val Ile Val						
	290		295		300	
Val Ala Thr Ile Ala Ser His Phe Gly Gln Leu His Thr Arg Phe Gly						
	305		310		315	
Ser Ser Val Ala Gly Asn Ile Pro Thr Gly Phe Val Ala Pro Gln Ile						
	325		330		335	
Pro Asp Pro Lys Ile Met Trp Ser Val Ala Leu Asp Ala Met Ser Leu						
	340		345		350	
Ala Leu Val Gly Ser Ala Phe Ser Ile Ser Leu Ala Glu Met Phe Ala						
	355		360		365	
Arg Ser His Gly Tyr Ser Val Ser Ala Asn Gln Glu Leu Leu Ala Val						
	370		375		380	
Gly Cys Cys Asn Val Leu Pro Ala Phe Phe His Cys Phe Ala Thr Ser						
	385		390		395	
Ala Ala Leu Ser Lys Thr Leu Val Lys Ile Ala Thr Gly Cys Gln Thr						
	405		410		415	
Gln Leu Ser Ser Val Val Ser Ala Ala Val Val Leu Leu Val Leu Leu						
	420		425		430	
Val Leu Ala						
	435					

<210> 49
 <211> 404
 <212> DNA
 <213> Homo sapiens

 <400> 49

tggaggaggc tttctgtaat acctggaagc tgaccgacca gaactttgat gagtacatga 60
 aggctctagg gatgggcttt gtcactaggc aggtgggaaa tgtggacaaa ccaagagtga 120
 ttatcagtca agaagaagac aagggtggtga tcaggattca aagtatgttc aagaacacag 180
 aggttagttt ccatctggga gaagagtttg atgaaaccac tacagatgac agaaactgca 240
 agtttgttgt tagtctggac agagacaaac tcattcacat acagaaatgg gatgacaaag 300
 aaacatattt tataagagaa attaagtatg gtgaaatggt tatgaccttt acttttggtg 360
 atgatgtggt tgccgttcac cactataaga aggcataaaa atgt 404

<210> 50
 <211> 404
 <212> DNA
 <213> Homo sapiens

<400> 50
 tgggtggaggc tttctgtgct acctggaagc tgaccaacag tcagaacttt gatgagtaca 60
 tgaaggctct aggcgtgggc ttgcccacta ggcaggtggg aaatgtgacc aaaccaacgg 120
 taattatcag tcaagaagga gacaaagtgg tcatcaggac tctcagcaca ttcaagaaca 180
 cggagattag tttccagctg ggagaagagt ttgatgaaac cactgcagat gatagaaact 240
 gtaagtctgt tgtagcctg gatggagaca aacttgttca catcacagaaa tgggatggca 300
 aagaaacaaa ttttgtaaga gaaattaagg atggcaaaat ggttatgacc cttacttttg 360
 gtgatgtggt tgctgttcgc cactatgaga aggcataaaa atgt 404

<210> 51
 <211> 130
 <212> PRT
 <213> Homo sapiens

<400> 51
 Glu Ala Phe Cys Asn Thr Trp Lys Leu Thr Asp Gln Asn Phe Asp Glu
 1 5 10 15
 Tyr Met Lys Ala Leu Gly Met Gly Phe Val Thr Arg Gln Val Gly Asn
 20 25 30
 Val Asp Lys Pro Arg Val Ile Ile Ser Gln Glu Glu Asp Lys Val Val
 35 40 45
 Ile Arg Ile Gln Ser Met Phe Lys Asn Thr Glu Val Ser Phe His Leu
 50 55 60
 Gly Glu Glu Phe Asp Glu Thr Thr Thr Asp Asp Arg Asn Cys Lys Phe
 65 70 75 80
 Val Val Ser Leu Asp Arg Asp Lys Leu Ile His Ile Gln Lys Trp Asp
 85 90 95

Asp Lys Glu Thr Tyr Phe Ile Arg Glu Ile Lys Tyr Gly Glu Met Val
100 105 110

Met Thr Phe Thr Phe Gly Asp Asp Val Val Ala Val His His Tyr Lys
115 120 125

Lys Ala
130

<210> 52
<211> 130
<212> PRT
<213> Homo sapiens

<400> 52
Glu Ala Phe Cys Ala Thr Trp Lys Leu Thr Asn Ser Gln Asn Phe Asp
1 5 10 15

Glu Tyr Met Lys Ala Leu Gly Val Gly Phe Ala Thr Arg Gln Val Gly
20 25 30

Asn Val Thr Lys Pro Thr Val Ile Ile Ser Gln Glu Gly Asp Lys Val
35 40 45

Val Ile Arg Thr Leu Ser Thr Phe Lys Asn Thr Glu Ile Ser Phe Gln
50 55 60

Leu Gly Glu Glu Phe Asp Glu Thr Thr Ala Asp Asp Arg Asn Cys Lys
65 70 75 80

Ser Val Val Ser Leu Asp Gly Asp Lys Leu Val His Ile Gln Lys Trp
85 90 95

Asp Gly Lys Glu Thr Asn Phe Val Arg Glu Ile Lys Asp Gly Lys Met
100 105 110

Val Met Thr Leu Thr Phe Gly Asp Val Val Ala Val Arg His Tyr Glu
115 120 125

Lys Ala
130

<210> 53
<211> 130
<212> PRT
<213> Homo sapiens

<400> 53
 Glu Ala Phe Cys Asn Thr Trp Lys Leu Thr Asp Gln Asn Phe Asp Glu
 1 5 10 15
 Tyr Met Lys Ala Leu Gly Met Gly Phe Val Thr Arg Gln Val Gly Asn
 20 25 30
 Val Asp Lys Pro Arg Val Ile Ile Ser Gln Glu Glu Asp Lys Val Val
 35 40 45
 Ile Arg Ile Gln Ser Met Phe Lys Asn Thr Glu Val Ser Phe His Leu
 50 55 60
 Gly Glu Glu Phe Asp Glu Thr Thr Thr Asp Asp Arg Asn Cys Lys Phe
 65 70 75 80
 Val Val Ser Leu Asp Arg Asp Lys Leu Ile His Ile Gln Lys Trp Asp
 85 90 95
 Asp Lys Glu Thr Tyr Phe Ile Arg Glu Ile Lys Tyr Gly Glu Met Val
 100 105 110
 Met Thr Phe Thr Phe Gly Asp Asp Val Val Ala Val His His Tyr Lys
 115 120 125
 Lys Ala
 130

<210> 54
 <211> 130
 <212> PRT
 <213> Homo sapiens

<400> 54
 Glu Ala Phe Cys Ala Thr Trp Lys Leu Thr Asn Ser Gln Asn Phe Asp
 1 5 10 15
 Glu Tyr Met Lys Ala Leu Gly Val Gly Phe Ala Thr Arg Gln Val Gly
 20 25 30
 Asn Val Thr Lys Pro Thr Val Ile Ile Ser Gln Glu Gly Asp Lys Val
 35 40 45
 Val Ile Arg Thr Leu Ser Thr Phe Lys Asn Thr Glu Ile Ser Phe Gln
 50 55 60

Leu Gly Glu Glu Phe Asp Glu Thr Thr Ala Asp Asp Arg Asn Cys Lys
65 70 75 80

Ser Val Val Ser Leu Asp Gly Asp Lys Leu Val His Ile Gln Lys Trp
85 90 95

Asp Gly Lys Glu Thr Asn Phe Val Arg Glu Ile Lys Asp Gly Lys Met
100 105 110

Val Met Thr Leu Thr Phe Gly Asp Val Val Ala Val Arg His Tyr Glu
115 120 125

Lys Ala
130

<210> 55

<211> 132

<212> PRT

<213> Homo sapiens

<400> 55

Val Glu Glu Ala Phe Cys Asn Thr Trp Lys Leu Thr Asp Gln Asn Phe
1 5 10 15

Asp Glu Tyr Met Lys Ala Leu Gly Met Gly Phe Val Thr Arg Gln Val
20 25 30

Gly Asn Val Asp Lys Pro Arg Val Ile Ile Ser Gln Glu Glu Asp Lys
35 40 45

Val Val Ile Arg Ile Gln Ser Met Phe Lys Asn Thr Glu Val Ser Phe
50 55 60

His Leu Gly Glu Glu Phe Asp Glu Thr Thr Thr Asp Asp Arg Asn Cys
65 70 75 80

Lys Phe Val Val Ser Leu Asp Arg Asp Lys Leu Ile His Ile Gln Lys
85 90 95

Trp Asp Asp Lys Glu Thr Tyr Phe Ile Arg Glu Ile Lys Tyr Gly Glu
100 105 110

Met Val Met Thr Phe Thr Phe Gly Asp Asp Val Val Ala Val His His
115 120 125

Tyr Lys Lys Ala
130

<210> 56
 <211> 132
 <212> PRT
 <213> Homo sapiens

<400> 56
 Val Glu Glu Ala Phe Cys Asn Thr Trp Lys Leu Thr Asp Gln Asn Phe
 1 5 10 15
 Asp Glu Tyr Met Lys Ala Leu Gly Met Gly Phe Val Thr Arg Gln Val
 20 25 30
 Gly Asn Val Asp Lys Pro Arg Val Ile Ile Ser Gln Glu Glu Asp Lys
 35 40 45
 Val Val Ile Arg Ile Gln Ser Met Phe Lys Asn Thr Glu Val Ser Phe
 50 55 60
 His Leu Gly Glu Glu Phe Asp Glu Thr Thr Thr Asp Asp Arg Asn Cys
 65 70 75 80
 Lys Phe Val Val Ser Leu Asp Arg Asp Lys Leu Ile His Ile Gln Lys
 85 90 95
 Trp Asp Asp Lys Glu Thr Tyr Phe Ile Arg Glu Ile Lys Tyr Gly Glu
 100 105 110
 Met Val Met Thr Phe Thr Phe Gly Asp Asp Val Val Ala Val His His
 115 120 125
 Tyr Lys Lys Ala
 130

<210> 57
 <211> 272
 <212> PRT
 <213> Homo sapiens

<400> 57
 Ala Cys Gly Leu Gly Phe Val Pro Val Val Tyr Tyr Ser Leu Leu Leu
 1 5 10 15
 Cys Leu Gly Leu Pro Ala Asn Ile Leu Thr Val Ile Ile Leu Ser Gln
 20 25 30

Leu Val Ala Arg Arg Gln Lys Ser Ser Tyr Asn Tyr Leu Leu Ala Leu
 35 40 45

Ala Ala Ala Asp Ile Leu Val Leu Phe Phe Ile Val Phe Val Asp Phe
 50 55 60

Leu Leu Glu Asp Phe Ile Leu Asn Met Gln Met Pro Gln Val Pro Asp
 65 70 75 80

Lys Ile Ile Glu Val Leu Glu Phe Ser Ser Ile His Thr Ser Ile Trp
 85 90 95

Ile Thr Val Pro Leu Thr Ile Asp Arg Tyr Ile Ala Val Cys His Pro
 100 105 110

Leu Lys Tyr His Thr Val Ser Tyr Pro Ala Arg Thr Arg Lys Val Ile
 115 120 125

Val Ser Val Tyr Ile Thr Cys Phe Leu Thr Ser Ile Pro Tyr Tyr Trp
 130 135 140

Trp Pro Asn Ile Trp Thr Glu Asp Tyr Ile Ser Thr Ser Val His His
 145 150 155 160

Val Leu Ile Trp Ile His Cys Phe Thr Val Tyr Leu Val Pro Cys Ser
 165 170 175

Ile Phe Phe Ile Leu Asn Ser Ile Ile Val Tyr Lys Leu Arg Arg Lys
 180 185 190

Ser Asn Phe Arg Leu Arg Gly Tyr Ser Thr Gly Lys Thr Thr Ala Ile
 195 200 205

Leu Phe Thr Ile Thr Ser Ile Phe Ala Thr Leu Trp Ala Pro Arg Ile
 210 215 220

Ile Met Ile Leu Tyr His Leu Tyr Gly Ala Pro Ile Gln Asn Arg Trp
 225 230 235 240

Leu Val His Ile Met Ser Asp Ile Ala Asn Met Leu Ala Leu Leu Asn
 245 250 255

Thr Ala Ile Asn Phe Phe Leu Tyr Cys Phe Ile Ser Lys Arg Phe Arg
 260 265 270

<210> 58
 <211> 272
 <212> PRT
 <213> Homo sapiens

<400> 58
 Ala Cys Gly Leu Gly Phe Val Pro Val Val Tyr Tyr Ser Leu Leu Leu
 1 5 10 15
 Cys Leu Gly Leu Pro Ala Asn Ile Leu Thr Val Ile Ile Leu Ser Gln
 20 25 30
 Leu Val Ala Arg Arg Gln Lys Ser Ser Tyr Asn Tyr Leu Leu Ala Leu
 35 40 45
 Ala Ala Ala Asp Ile Leu Val Leu Phe Phe Ile Val Phe Val Asp Phe
 50 55 60
 Leu Leu Glu Asp Phe Ile Leu Asn Met Gln Met Pro Gln Val Pro Asp
 65 70 75 80
 Lys Ile Ile Glu Val Leu Glu Phe Ser Ser Ile His Thr Ser Ile Trp
 85 90 95
 Ile Thr Val Pro Leu Thr Ile Asp Arg Tyr Ile Ala Val Cys His Pro
 100 105 110
 Leu Lys Tyr His Thr Val Ser Tyr Pro Ala Arg Thr Arg Lys Val Ile
 115 120 125
 Val Ser Val Tyr Ile Thr Cys Phe Leu Thr Ser Ile Pro Tyr Tyr Trp
 130 135 140
 Trp Pro Asn Ile Trp Thr Glu Asp Tyr Ile Ser Thr Ser Val His His
 145 150 155 160
 Val Leu Ile Trp Ile His Cys Phe Thr Val Tyr Leu Val Pro Cys Ser
 165 170 175
 Ile Phe Phe Ile Leu Asn Ser Ile Ile Val Tyr Lys Leu Arg Arg Lys
 180 185 190
 Ser Asn Phe Arg Leu Arg Gly Tyr Ser Thr Gly Lys Thr Thr Ala Ile
 195 200 205
 Leu Phe Thr Ile Thr Ser Ile Phe Ala Thr Leu Trp Ala Pro Arg Ile
 210 215 220

Ile Met Ile Leu Tyr His Leu Tyr Gly Ala Pro Ile Gln Asn Arg Trp
 225 230 235 240

Leu Val His Ile Met Ser Asp Ile Ala Asn Met Leu Ala Leu Leu Asn
 245 250 255

Thr Ala Ile Asn Phe Phe Leu Tyr Cys Phe Ile Ser Lys Arg Phe Arg
 260 265 270

<210> 59
 <211> 350
 <212> PRT
 <213> Homo sapiens

<400> 59
 Met Glu His Thr His Ala His Leu Ala Ala Asn Ser Ser Leu Ser Trp
 1 5 10 15

Trp Ser Pro Gly Ser Ala Cys Gly Leu Gly Phe Val Pro Val Val Tyr
 20 25 30

Tyr Ser Leu Leu Leu Cys Leu Gly Leu Pro Ala Asn Ile Leu Thr Val
 35 40 45

Ile Ile Leu Ser Gln Leu Val Ala Arg Arg Gln Lys Ser Ser Tyr Asn
 50 55 60

Tyr Leu Leu Ala Leu Ala Ala Ala Asp Ile Leu Val Leu Phe Phe Ile
 65 70 75 80

Val Phe Val Asp Phe Leu Leu Glu Asp Phe Ile Leu Asn Met Gln Met
 85 90 95

Pro Gln Val Pro Asp Lys Ile Ile Glu Val Leu Glu Phe Ser Ser Ile
 100 105 110

His Thr Ser Ile Trp Ile Thr Val Pro Leu Thr Ile Asp Arg Tyr Ile
 115 120 125

Thr Val Cys His Pro Leu Lys Tyr His Thr Val Ser Tyr Pro Ala Arg
 130 135 140

Thr Arg Lys Val Ile Val Ser Val Tyr Ile Thr Cys Phe Leu Thr Ser

145		150		155		160
Ile Pro Tyr Tyr Trp Trp Pro Asn Ile Trp Thr Glu Asp Tyr Ile Ser						
	165			170		175
Thr Ser Val His His Val Leu Ile Trp Ile His Cys Phe Thr Val Tyr						
	180			185		190
Leu Val Pro Cys Ser Ile Phe Phe Ile Leu Asn Ser Ile Ile Val Tyr						
	195			200		205
Lys Leu Arg Arg Lys Ser Asn Phe Arg Leu Arg Gly Tyr Ser Thr Gly						
	210			215		220
Lys Thr Thr Ala Ile Leu Phe Thr Ile Thr Ser Ile Phe Ala Thr Leu						
	225			230		235
Trp Ala Pro Arg Ile Ile Met Ile Leu Tyr His Leu Tyr Gly Ala Pro						
	245			250		255
Ile Gln Asn Arg Trp Leu Val His Ile Met Ser Asp Ile Ala Asn Met						
	260			265		270
Leu Ala Leu Leu Asn Thr Ala Ile Asn Phe Phe Leu Tyr Cys Phe Ile						
	275			280		285
Ser Lys Arg Phe Arg Thr Met Ala Ala Ala Thr Leu Lys Ala Phe Phe						
	290			295		300
Lys Cys Gln Lys Gln Pro Val Gln Phe Tyr Thr Asn His Asn Phe Ser						
	305			310		315
Ile Thr Ser Ser Pro Trp Ile Ser Pro Ala Asn Ser His Cys Ile Lys						
	325			330		335
Met Leu Val Tyr Gln Tyr Asp Lys Asn Gly Lys Pro Ile Lys						
	340			345		350

<210> 60
 <211> 350
 <212> PRT
 <213> Homo sapiens

<400> 60
 Met Glu His Thr His Ala His Leu Ala Ala Asn Ser Ser Leu Ser Trp
 1 5 10 15

Trp Ser Pro Gly Ser Ala Cys Gly Leu Gly Phe Val Pro Val Val Tyr
 20 25 30
 Tyr Ser Leu Leu Leu Cys Leu Gly Leu Pro Ala Asn Ile Leu Thr Val
 35 40 45
 Ile Ile Leu Ser Gln Leu Val Ala Arg Arg Gln Lys Ser Ser Tyr Asn
 50 55 60
 Tyr Leu Leu Ala Leu Ala Ala Ala Asp Ile Leu Val Leu Phe Phe Ile
 65 70 75 80
 Val Phe Val Asp Phe Leu Leu Glu Asp Phe Ile Leu Asn Met Gln Met
 85 90 95
 Pro Gln Val Pro Asp Lys Ile Ile Glu Val Leu Glu Phe Ser Ser Ile
 100 105 110
 His Thr Ser Ile Trp Ile Thr Val Pro Leu Thr Ile Asp Arg Tyr Ile
 115 120 125
 Ala Val Cys His Pro Leu Lys Tyr His Thr Val Ser Tyr Pro Ala Arg
 130 135 140
 Thr Arg Lys Val Ile Val Ser Val Tyr Ile Thr Cys Phe Leu Thr Ser
 145 150 155 160
 Ile Pro Tyr Tyr Trp Trp Pro Asn Ile Trp Thr Glu Asp Tyr Ile Ser
 165 170 175
 Thr Ser Val His His Val Leu Ile Trp Ile His Cys Phe Thr Val Tyr
 180 185 190
 Leu Val Pro Cys Ser Ile Phe Phe Ile Leu Asn Ser Ile Ile Val Tyr
 195 200 205
 Lys Leu Arg Arg Lys Ser Asn Phe Arg Leu Arg Gly Tyr Ser Thr Gly
 210 215 220
 Lys Thr Thr Ala Ile Leu Phe Thr Ile Thr Ser Ile Phe Ala Thr Leu
 225 230 235 240
 Trp Ala Pro Arg Ile Ile Met Ile Leu Tyr His Leu Tyr Gly Ala Pro
 245 250 255
 Ile Gln Asn Arg Trp Leu Val His Ile Met Ser Asp Ile Ala Asn Met
 260 265 270

Leu Ala Leu Leu Asn Thr Ala Ile Asn Phe Phe Leu Tyr Cys Phe Ile
 275 280 285

Ser Lys Arg Phe Arg Thr Met Ala Ala Ala Thr Leu Lys Ala Phe Phe
 290 295 300

Lys Cys Gln Lys Gln Pro Val Gln Phe Tyr Thr Asn His Asn Phe Ser
 305 310 315 320

Ile Thr Ser Ser Pro Trp Ile Ser Pro Ala Asn Ser His Cys Ile Lys
 325 330 335

Met Leu Val Tyr Gln Tyr Asp Lys Asn Gly Lys Pro Ile Lys
 340 345 350

<210> 61
 <211> 657
 <212> PRT
 <213> Homo sapiens

<400> 61
 Lys His Ser Asn Lys Lys Val Met Arg Thr Lys Ser Ser Glu Lys Ala
 1 5 10 15

Ala Asn Asp Asp His Ser Val Arg Val Ala Arg Glu Asp Val Arg Glu
 20 25 30

Ser Cys Pro Pro Leu Gly Leu Glu Thr Leu Lys Ile Thr Asp Phe Gln
 35 40 45

Leu His Ala Ser Thr Val Lys Arg Tyr Gly Leu Gly Ala His Arg Gly
 50 55 60

Arg Leu Asn Ile Gln Ala Gly Ile Asn Glu Asn Asp Phe Tyr Asp Gly
 65 70 75 80

Ala Trp Cys Ala Gly Arg Asn Asp Leu Gln Gln Trp Ile Glu Val Asp
 85 90 95

Ala Arg Arg Leu Thr Arg Phe Thr Gly Val Ile Thr Gln Gly Arg Asn
 100 105 110

Ser Leu Trp Leu Ser Asp Trp Val Thr Ser Tyr Lys Val Met Val Ser
 115 120 125

Asn Asp Ser His Thr Trp Val Thr Val Lys Asn Gly Ser Gly Asp Met
 130 135 140

Ile	Phe	Glu	Gly	Asn	Ser	Glu	Lys	Glu	Ile	Pro	Val	Leu	Asn	Glu	Leu	145	150	155	160
Pro	Val	Pro	Met	Val	Ala	Arg	Tyr	Ile	Arg	Ile	Asn	Pro	Gln	Ser	Trp	165	170	175	
Phe	Asp	Asn	Gly	Ser	Ile	Cys	Met	Arg	Met	Glu	Ile	Leu	Gly	Cys	Pro	180	185	190	
Leu	Pro	Asp	Pro	Asn	Asn	Tyr	Tyr	His	Arg	Arg	Asn	Glu	Met	Thr	Thr	195	200	205	
Thr	Asp	Asp	Leu	Asp	Phe	Lys	His	His	Asn	Tyr	Lys	Glu	Met	Arg	Gln	210	215	220	
Val	Gln	Leu	Met	Lys	Val	Val	Asn	Glu	Met	Cys	Pro	Asn	Ile	Thr	Arg	225	230	235	240
Ile	Tyr	Asn	Ile	Gly	Lys	Ser	His	Gln	Gly	Leu	Lys	Leu	Tyr	Ala	Val	245	250	255	
Glu	Ile	Ser	Asp	His	Pro	Gly	Glu	His	Glu	Val	Gly	Glu	Pro	Glu	Phe	260	265	270	
His	Tyr	Ile	Ala	Gly	Ala	His	Gly	Asn	Glu	Val	Leu	Gly	Arg	Glu	Leu	275	280	285	
Leu	Leu	Leu	Leu	Val	Gln	Phe	Val	Cys	Gln	Glu	Tyr	Leu	Ala	Arg	Asn	290	295	300	
Ala	Arg	Ile	Val	His	Leu	Val	Glu	Glu	Thr	Arg	Ile	His	Val	Leu	Pro	305	310	315	320
Ser	Leu	Asn	Pro	Asp	Gly	Tyr	Glu	Lys	Ala	Tyr	Glu	Gly	Gly	Ser	Glu	325	330	335	
Leu	Gly	Gly	Trp	Ser	Leu	Gly	Arg	Trp	Thr	His	Asp	Gly	Ile	Asp	Ile	340	345	350	
Asn	Asn	Asn	Phe	Pro	Asp	Leu	Asn	Thr	Leu	Leu	Trp	Glu	Ala	Glu	Asp	355	360	365	
Arg	Gln	Asn	Val	Pro	Arg	Lys	Val	Pro	Asn	His	Tyr	Ile	Ala	Ile	Pro	370	375	380	
Glu	Trp	Phe	Leu	Ser	Glu	Asn	Ala	Thr	Val	Val	Ala	Ala	Glu	Thr	Arg	385	390	395	400

Ala Val Ile Ala Trp Met Glu Lys Ile Pro Phe Val Leu Gly Gly Asn		
405	410	415
Leu Gln Gly Gly Glu Leu Val Val Ala Tyr Pro Tyr Asp Leu Val Arg		
420	425	430
Ser Pro Trp Lys Thr Gln Glu His Thr Pro Thr Pro Asp Asp His Val		
435	440	445
Phe Arg Trp Leu Ala Tyr Ser Tyr Ala Ser Thr His Arg Leu Met Thr		
450	455	460
Asp Ala Arg Arg Arg Val Cys His Thr Glu Asp Phe Gln Lys Glu Glu		
465	470	475 480
Gly Thr Val Asn Gly Ala Ser Trp His Thr Val Ala Gly Ser Leu Asn		
485	490	495
Asp Phe Ser Tyr Leu His Thr Asn Cys Phe Glu Leu Ser Ile Tyr Val		
500	505	510
Gly Cys Asp Lys Tyr Pro His Glu Ser Gln Leu Pro Glu Glu Trp Glu		
515	520	525
Asn Asn Arg Glu Ser Leu Ile Val Phe Met Glu Gln Val His Arg Gly		
530	535	540
Ile Lys Gly Leu Val Arg Asp Ser His Gly Lys Gly Ile Pro Asn Ala		
545	550	555 560
Ile Ile Ser Val Glu Gly Ile Asn His Asp Ile Arg Thr Ala Asn Asp		
565	570	575
Gly Asp Tyr Trp Arg Leu Leu Asn Pro Gly Glu Tyr Val Val Thr Ala		
580	585	590
Lys Ala Glu Gly Phe Thr Ala Ser Thr Lys Asn Cys Met Val Gly Tyr		
595	600	605
Asp Met Gly Ala Thr Arg Cys Asp Phe Thr Leu Ser Lys Thr Asn Met		
610	615	620
Ala Arg Ile Arg Glu Ile Met Glu Lys Phe Gly Lys Gln Pro Val Ser		
625	630	635 640
Leu Pro Ala Arg Arg Leu Lys Leu Arg Gly Arg Lys Arg Arg Gln Arg		
645	650	655

Gly

<210> 62
<211> 654
<212> PRT
<213> Homo sapiens

<400> 62
Lys His Ser Asn Lys Lys Val Met Arg Thr Lys Ser Ser Glu Lys Ala
1 5 10 15
Ala Asn Asp Asp His Ser Val Arg Val Ala Arg Glu Asp Val Arg Glu
20 25 30
Ser Cys Pro Pro Leu Gly Leu Glu Thr Leu Lys Ile Thr Asp Phe Gln
35 40 45
Leu His Ala Ser Thr Val Lys Arg Tyr Gly Leu Gly Ala His Arg Gly
50 55 60
Arg Leu Asn Ile Gln Ala Gly Ile Asn Glu Asn Asp Phe Tyr Asp Gly
65 70 75 80
Ala Trp Cys Ala Gly Arg Asn Asp Leu Gln Gln Trp Ile Glu Val Asp
85 90 95
Ala Arg Arg Leu Thr Arg Phe Thr Gly Val Ile Thr Gln Gly Arg Asn
100 105 110
Ser Leu Trp Leu Ser Asp Trp Val Thr Ser Tyr Lys Val Met Val Ser
115 120 125
Asn Asp Ser His Thr Trp Val Thr Val Lys Asn Gly Ser Gly Asp Met
130 135 140
Ile Phe Glu Gly Asn Ser Glu Lys Glu Ile Pro Val Leu Asn Glu Leu
145 150 155 160
Pro Val Pro Met Val Ala Arg Tyr Ile Arg Ile Asn Pro Gln Ser Trp
165 170 175
Phe Asp Asn Gly Ser Ile Cys Met Arg Met Glu Ile Leu Gly Cys Pro
180 185 190
Leu Pro Asp Pro Asn Asn Tyr Tyr His Arg Arg Asn Glu Met Thr Thr

195	200	205
Thr Asp Asp Leu Asp Phe Lys His His Asn Tyr Lys Glu Met Arg Gln		
210	215	220
Leu Met Lys Val Val Asn Glu Met Cys Pro Asn Ile Thr Arg Ile Tyr		
225	230	235 240
Asn Ile Gly Lys Ser His Gln Gly Leu Lys Leu Tyr Ala Val Glu Ile		
	245	250 255
Ser Asp His Pro Gly Glu His Glu Val Gly Glu Pro Glu Phe His Tyr		
	260	265 270
Ile Ala Gly Ala His Gly Asn Glu Val Leu Gly Arg Glu Leu Leu Leu		
	275	280 285
Leu Leu Val Gln Phe Val Cys Gln Glu Tyr Leu Ala Arg Asn Ala Arg		
	290	295 300
Ile Val His Leu Val Glu Glu Thr Arg Ile His Val Leu Pro Ser Leu		
305	310	315 320
Asn Pro Asp Gly Tyr Glu Lys Ala Tyr Glu Gly Gly Ser Glu Leu Gly		
	325	330 335
Gly Trp Ser Leu Gly Arg Trp Thr His Asp Gly Ile Asp Ile Asn Asn		
	340	345 350
Asn Phe Pro Asp Leu Asn Thr Leu Leu Trp Glu Ala Glu Asp Arg Gln		
	355	360 365
Asn Val Pro Arg Lys Val Pro Asn His Tyr Ile Ala Ile Pro Glu Trp		
	370	375 380
Phe Leu Ser Glu Asn Ala Thr Val Ala Ala Glu Thr Arg Ala Val Ile		
385	390	395 400
Ala Trp Met Glu Lys Ile Pro Phe Val Leu Gly Gly Asn Leu Gln Gly		
	405	410 415
Gly Glu Leu Val Val Ala Tyr Pro Tyr Asp Leu Val Arg Ser Pro Trp		
	420	425 430
Lys Thr Gln Glu His Thr Pro Thr Pro Asp Asp His Val Phe Arg Trp		
	435	440 445
Leu Ala Tyr Ser Tyr Ala Ser Thr His Arg Leu Met Thr Asp Ala Arg		

450		455		460
Arg Arg Val Cys His Thr Glu Asp Phe Gln Lys Glu Glu Gly Thr Val				
465		470		480
Asn Gly Ala Ser Trp His Thr Val Ala Gly Ser Leu Asn Asp Phe Ser				
	485		490	495
Tyr Leu His Thr Asn Cys Phe Glu Leu Ser Ile Tyr Val Gly Cys Asp				
	500		505	510
Lys Tyr Pro His Glu Ser Gln Leu Pro Glu Glu Trp Glu Asn Asn Arg				
	515		520	525
Glu Ser Leu Ile Val Phe Met Glu Gln Val His Arg Gly Ile Lys Gly				
	530		535	540
Leu Val Arg Asp Ser His Gly Lys Gly Ile Pro Asn Ala Ile Ile Ser				
545		550		560
Val Glu Gly Ile Asn His Asp Ile Arg Thr Ala Asn Asp Gly Asp Tyr				
	565		570	575
Trp Arg Leu Leu Asn Pro Gly Glu Tyr Val Val Thr Ala Lys Ala Glu				
	580		585	590
Gly Phe Thr Ala Ser Thr Lys Asn Cys Met Val Gly Tyr Asp Met Gly				
	595		600	605
Ala Thr Arg Cys Asp Phe Thr Leu Ser Lys Thr Asn Met Ala Arg Ile				
	610		615	620
Arg Glu Ile Met Glu Lys Phe Gly Lys Gln Pro Val Ser Leu Pro Ala				
625		630		640
Arg Arg Leu Lys Leu Arg Gly Arg Lys Arg Arg Gln Arg Gly				
	645		650	

<210> 63
 <211> 509
 <212> PRT
 <213> Homo sapiens

<400> 63
 Asn Ser Glu Lys Glu Ile Pro Val Leu Asn Glu Leu Pro Val Pro Met
 1 5 10 15

Val	Ala	Arg	Tyr	Ile	Arg	Ile	Asn	Pro	Gln	Ser	Trp	Phe	Asp	Asn	Gly			
			20					25					30					
Ser	Ile	Cys	Met	Arg	Met	Glu	Ile	Leu	Gly	Cys	Pro	Leu	Pro	Asp	Pro			
		35					40					45						
Asn	Asn	Tyr	Tyr	His	Arg	Arg	Asn	Glu	Met	Thr	Thr	Thr	Asp	Asp	Leu			
	50					55					60							
Asp	Phe	Lys	His	His	Asn	Tyr	Lys	Glu	Met	Arg	Gln	Val	Gln	Leu	Met			
65					70					75					80			
Lys	Val	Val	Asn	Glu	Met	Cys	Pro	Asn	Ile	Thr	Arg	Ile	Tyr	Asn	Ile			
			85						90					95				
Gly	Lys	Ser	His	Gln	Gly	Leu	Lys	Leu	Tyr	Ala	Val	Glu	Ile	Ser	Asp			
			100					105					110					
His	Pro	Gly	Glu	His	Glu	Val	Gly	Glu	Pro	Glu	Phe	His	Tyr	Ile	Ala			
		115					120					125						
Gly	Ala	His	Gly	Asn	Glu	Val	Leu	Gly	Arg	Glu	Leu	Leu	Leu	Leu	Leu			
	130					135					140							
Val	Gln	Phe	Val	Cys	Gln	Glu	Tyr	Leu	Ala	Arg	Asn	Ala	Arg	Ile	Val			
145				150					155						160			
His	Leu	Val	Glu	Glu	Thr	Arg	Ile	His	Val	Leu	Pro	Ser	Leu	Asn	Pro			
			165					170						175				
Asp	Gly	Tyr	Glu	Lys	Ala	Tyr	Glu	Gly	Gly	Ser	Glu	Leu	Gly	Gly	Trp			
		180						185					190					
Ser	Leu	Gly	Arg	Trp	Thr	His	Asp	Gly	Ile	Asp	Ile	Asn	Asn	Asn	Phe			
	195						200					205						
Pro	Asp	Leu	Asn	Thr	Leu	Leu	Trp	Glu	Ala	Glu	Asp	Arg	Gln	Asn	Val			
	210					215					220							
Pro	Arg	Lys	Val	Pro	Asn	His	Tyr	Ile	Ala	Ile	Pro	Glu	Trp	Phe	Leu			
225					230					235					240			
Ser	Glu	Asn	Ala	Thr	Val	Val	Ala	Ala	Glu	Thr	Arg	Ala	Val	Ile	Ala			
			245						250					255				
Trp	Met	Glu	Lys	Ile	Pro	Phe	Val	Leu	Gly	Gly	Asn	Leu	Gln	Gly	Gly			
		260						265					270					

Glu Leu Val Val Ala Tyr Pro Tyr Asp Leu Val Arg Ser Pro Trp Lys
 275 280 285
 Thr Gln Glu His Thr Pro Thr Pro Asp Asp His Val Phe Arg Trp Leu
 290 295 300
 Ala Tyr Ser Tyr Ala Ser Thr His Arg Leu Met Thr Asp Ala Arg Arg
 305 310 315 320
 Arg Val Cys His Thr Glu Asp Phe Gln Lys Glu Glu Gly Thr Val Asn
 325 330 335
 Gly Ala Ser Trp His Thr Val Ala Gly Ser Leu Asn Asp Phe Ser Tyr
 340 345 350
 Leu His Thr Asn Cys Phe Glu Leu Ser Ile Tyr Val Gly Cys Asp Lys
 355 360 365
 Tyr Pro His Glu Ser Gln Leu Pro Glu Glu Trp Glu Asn Asn Arg Glu
 370 375 380
 Ser Leu Ile Val Phe Met Glu Gln Val His Arg Gly Ile Lys Gly Leu
 385 390 395 400
 Val Arg Asp Ser His Gly Lys Gly Ile Pro Asn Ala Ile Ile Ser Val
 405 410 415
 Glu Gly Ile Asn His Asp Ile Arg Thr Ala Asn Asp Gly Asp Tyr Trp
 420 425 430
 Arg Leu Leu Asn Pro Gly Glu Tyr Val Val Thr Ala Lys Ala Glu Gly
 435 440 445
 Phe Thr Ala Ser Thr Lys Asn Cys Met Val Gly Tyr Asp Met Gly Ala
 450 455 460
 Thr Arg Cys Asp Phe Thr Leu Ser Lys Thr Asn Met Ala Arg Ile Arg
 465 470 475 480
 Glu Ile Met Glu Lys Phe Gly Lys Gln Pro Val Ser Leu Pro Ala Arg
 485 490 495
 Arg Leu Lys Leu Arg Gly Arg Lys Arg Arg Gln Arg Gly
 500 505

<210> 64
 <211> 506

<212> PRT

<213> Homo sapiens

<400> 64

Asn	Ser	Glu	Lys	Glu	Ile	Pro	Val	Leu	Asn	Glu	Leu	Pro	Val	Pro	Met
1				5					10					15	
Val	Ala	Arg	Tyr	Ile	Arg	Ile	Asn	Pro	Gln	Ser	Trp	Phe	Asp	Asn	Gly
			20					25					30		
Ser	Ile	Cys	Met	Arg	Met	Glu	Ile	Leu	Gly	Cys	Pro	Leu	Pro	Asp	Pro
		35					40					45			
Asn	Asn	Tyr	Tyr	His	Arg	Arg	Asn	Glu	Met	Thr	Thr	Thr	Asp	Asp	Leu
	50					55					60				
Asp	Phe	Lys	His	His	Asn	Tyr	Lys	Glu	Met	Arg	Gln	Leu	Met	Lys	Val
65					70					75					80
Val	Asn	Glu	Met	Cys	Pro	Asn	Ile	Thr	Arg	Ile	Tyr	Asn	Ile	Gly	Lys
				85					90					95	
Ser	His	Gln	Gly	Leu	Lys	Leu	Tyr	Ala	Val	Glu	Ile	Ser	Asp	His	Pro
			100					105					110		
Gly	Glu	His	Glu	Val	Gly	Glu	Pro	Glu	Phe	His	Tyr	Ile	Ala	Gly	Ala
		115					120					125			
His	Gly	Asn	Glu	Val	Leu	Gly	Arg	Glu	Leu	Leu	Leu	Leu	Leu	Leu	His
	130					135					140				
Phe	Leu	Cys	Gln	Glu	Tyr	Ser	Ala	Gln	Asn	Ala	Arg	Ile	Val	Arg	Leu
145					150					155					160
Val	Glu	Glu	Thr	Arg	Ile	His	Ile	Leu	Pro	Ser	Leu	Asn	Pro	Asp	Gly
				165					170					175	
Tyr	Glu	Lys	Ala	Tyr	Glu	Gly	Gly	Ser	Glu	Leu	Gly	Gly	Trp	Ser	Leu
			180					185					190		
Gly	Arg	Trp	Thr	His	Asp	Gly	Ile	Asp	Ile	Asn	Asn	Asn	Phe	Pro	Asp
		195					200					205			
Leu	Asn	Ser	Leu	Leu	Trp	Glu	Ala	Glu	Asp	Gln	Gln	Asn	Ala	Pro	Arg
	210						215				220				
Lys	Val	Pro	Asn	His	Tyr	Ile	Ala	Ile	Pro	Glu	Trp	Phe	Leu	Ser	Glu
225					230					235					240

Asn	Ala	Thr	Val	Ala	Thr	Glu	Thr	Arg	Ala	Val	Ile	Ala	Trp	Met	Glu	245	250	255	
Lys	Ile	Pro	Phe	Val	Leu	Gly	Gly	Asn	Leu	Gln	Gly	Gly	Glu	Leu	Val	260	265	270	
Val	Ala	Tyr	Pro	Tyr	Asp	Met	Val	Arg	Ser	Leu	Trp	Lys	Thr	Gln	Glu	275	280	285	
His	Thr	Pro	Thr	Pro	Asp	Asp	His	Val	Phe	Arg	Trp	Leu	Ala	Tyr	Ser	290	295	300	
Tyr	Ala	Ser	Thr	His	Arg	Leu	Met	Thr	Asp	Ala	Arg	Arg	Arg	Val	Cys	305	310	315	320
His	Thr	Glu	Asp	Phe	Gln	Lys	Glu	Glu	Gly	Thr	Val	Asn	Gly	Ala	Ser	325	330	335	
Trp	His	Thr	Val	Ala	Gly	Ser	Leu	Asn	Asp	Phe	Ser	Tyr	Leu	His	Thr	340	345	350	
Asn	Cys	Phe	Glu	Leu	Ser	Ile	Tyr	Val	Gly	Cys	Asp	Lys	Tyr	Pro	His	355	360	365	
Glu	Ser	Glu	Leu	Pro	Glu	Glu	Trp	Glu	Asn	Asn	Arg	Glu	Ser	Leu	Ile	370	375	380	
Val	Phe	Met	Glu	Gln	Val	His	Arg	Gly	Ile	Lys	Gly	Ile	Val	Arg	Asp	385	390	395	400
Leu	Gln	Gly	Lys	Gly	Ile	Ser	Asn	Ala	Val	Ile	Ser	Val	Glu	Gly	Val	405	410	415	
Asn	His	Asp	Ile	Arg	Thr	Ala	Ser	Asp	Gly	Asp	Tyr	Trp	Arg	Leu	Leu	420	425	430	
Asn	Pro	Gly	Glu	Tyr	Val	Val	Thr	Ala	Lys	Ala	Glu	Gly	Phe	Ile	Thr	435	440	445	
Ser	Thr	Lys	Asn	Cys	Met	Val	Gly	Tyr	Asp	Met	Gly	Ala	Thr	Arg	Cys	450	455	460	
Asp	Phe	Thr	Leu	Thr	Lys	Thr	Asn	Leu	Ala	Arg	Ile	Arg	Glu	Ile	Met	465	470	475	480
Glu	Thr	Phe	Gly	Lys	Gln	Pro	Val	Ser	Leu	Pro	Ser	Arg	Arg	Leu	Lys	485	490	495	

Leu Arg Gly Arg Lys Arg Arg Gln Arg Gly
500 505

<210> 65
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:chemically
synthesized oligonucleotide

<400> 65
tcacaggatg atgacacaag ctcc 24

<210> 66
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:chemically
synthesized oligonucleotide

<400> 66
atgtgatctt tggctgtgaa gt 22

<210> 67
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:chemically
synthesized oligonucleotide

<400> 67
ctaccccatg gcctccatcg agt 23

<210> 68
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:chemically
 synthesized oligonucleotide

<400> 68
 ggatgtccaa gccatcctt 19

<210> 69
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:chemically
 synthesized oligonucleotide

<400> 69
 tgactgctgc ccactgca 18

<210> 70
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:chemically
 synthesized oligonucleotide

<400> 70
 caccgaccgc tccatctacc ggat 24

<210> 71
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:chemically
 synthesized oligonucleotide

<400> 71
 gagatacacg tccccagcgt 20

<210> 72
 <211> 22
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:chemically
 synthesized oligonucleotide

 <400> 72
 ctcaagtacc acacggtctc at 22

 <210> 73
 <211> 25
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:chemically
 synthesized oligonucleotide

 <400> 73
 ccgcacccgg aaagtcattg taagt 25

 <210> 74
 <211> 22
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:chemically
 synthesized oligonucleotide

 <400> 74
 tcaggaagca ggtgatgtaa ac 22

 <210> 75
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:chemically
 synthesized oligonucleotide

<p><400> 75</p> <p>ggaagctgac cgaccagaac</p>	20
<p><210> 76</p> <p><211> 29</p> <p><212> DNA</p> <p><213> Artificial Sequence</p>	
<p><220></p> <p><223> Description of Artificial Sequence:chemically synthesized oligonucleotide</p>	
<p><400> 76</p> <p>agcccatccc tagagccttc atgtactca</p>	29
<p><210> 77</p> <p><211> 22</p> <p><212> DNA</p> <p><213> Artificial Sequence</p>	
<p><220></p> <p><223> Description of Artificial Sequence:chemically synthesized oligonucleotide</p>	
<p><400> 77</p> <p>atttcccacc tgcctagtga ca</p>	22
<p><210> 78</p> <p><211> 21</p> <p><212> DNA</p> <p><213> Artificial Sequence</p>	
<p><220></p> <p><223> Description of Artificial Sequence:chemically synthesized oligonucleotide</p>	
<p><400> 78</p> <p>cagctcgctg tcttggtggt c</p>	21